NATIONAL PETROLEUM NEWS

April 7, 1948
Vol. 40—No. 14

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DETROIT

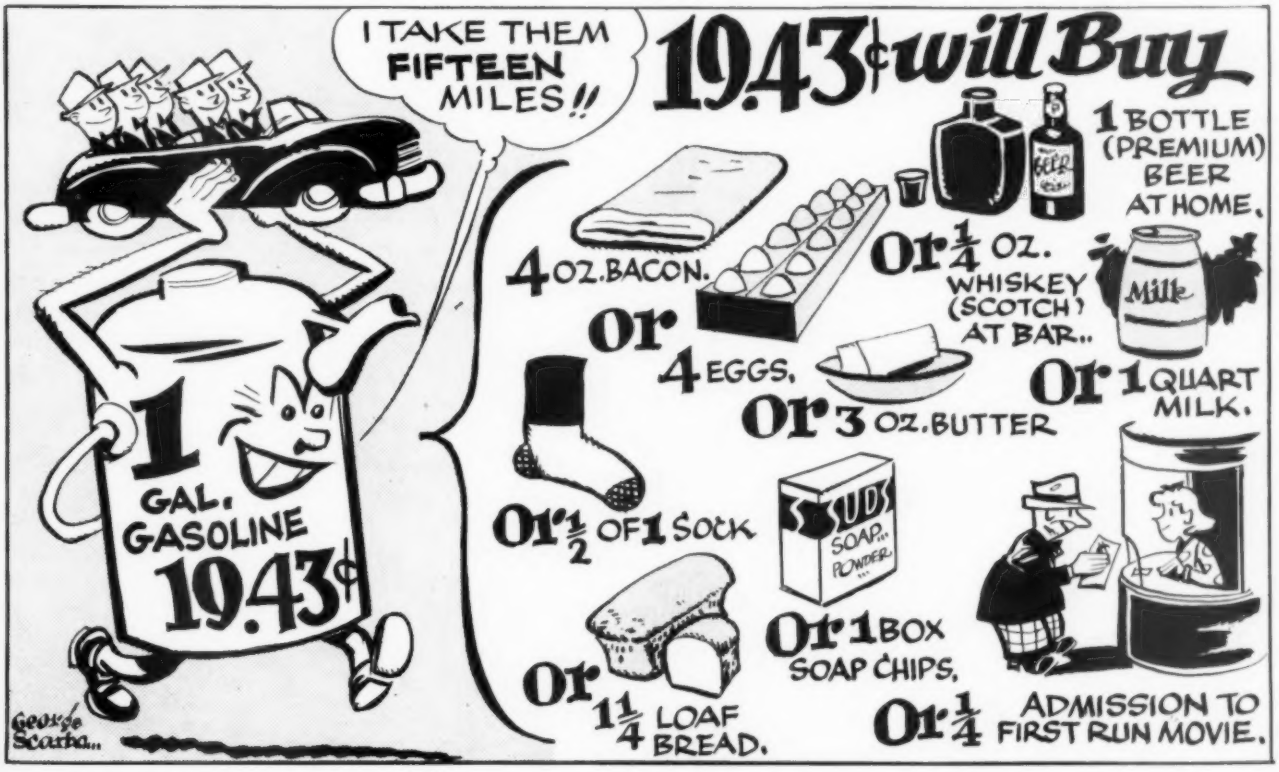
As the Public Sees the Oil Industry

A public opinion poll, covering the attitudes toward the oil industry in relation to fuel oil shortages, prices and profits, was made for the Oil Industry Information Committee. The text of the findings, including summary tables, is printed in this week's National Petroleum News. Page 26.

Barge and Towboat Construction Soars

Barge and towboat construction is going ahead as fast as steel supplies will permit. This indicates that traffic on the inland rivers and canals will continue to increase. Article by NPN staff writer discloses the extent of this construction and describes features of new units. Page 29.

'High Price' of Gasoline? Five People Ride 15 Miles for Less Than 19 1/2 Cents



19.43c is average retail price (ex tax) of housebrand gasoline in 50 cities

Cartoon drawn for National Petroleum News by George Scarba of NEA Service

INSURE FULL FLOW

with

Morrison Line Strainers !

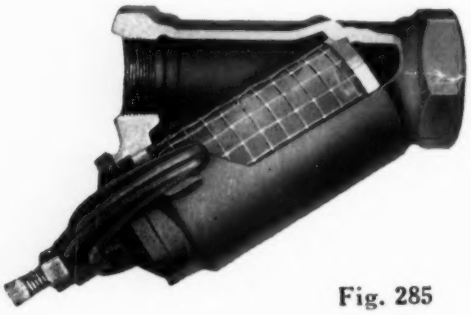


Fig. 285

CYLINDRICAL SCREEN STRAINER

Fig. 286

TOP CLEAN OUT STRAINER

Morrison improved type line strainers have cylindrical screens arranged to catch all foreign matter for complete and easy removal. A large area of fine screen is provided so that flow is not impeded. This is backed by coarse screen for additional strength.

Various meshes are available for different liquids.

These line strainers are backed by Morrison's over 90 years of precision manufacture for the Oil industry.

Every Line Needs A GOOD Strainer!

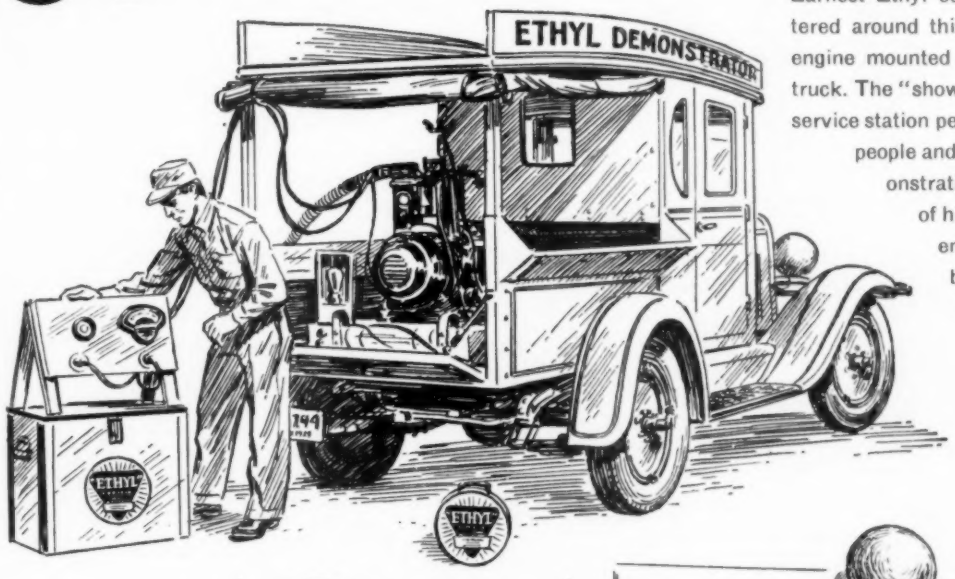
MORRISON BROS. COMPANY

OIL EQUIPMENT HEADQUARTERS

DUBUQUE, IOWA

Then & Now-

25 YEARS OF SERVING THE PETROLEUM INDUSTRY



Earliest Ethyl educational activity centered around this small demonstration engine mounted in the back of a light truck. The "show" was taken directly to service station personnel and automotive people and gave on-the-spot demonstrations of the advantages of high quality gasoline. The engine knocked perceptibly when operated on low-octane fuel, but when switched to "Ethyl" gasoline the knock instantly disappeared.

Typical of Ethyl's present-day educational activities is the "Safe Handling of Gasoline" show, illustrated here, which already has been seen by more than 39,000 refinery personnel in over 600 meetings. A variety of presentations on many aspects of gasoline and engines are available to oil companies. These presentations, tailored to fit their particular programs, include many types of illustrative material—booklets, pamphlets, charts, etc., as well as an extensive library of motion picture and slide films.

"ETHYL" ANTIKNOCK COMPOUND — ETHYL CORPORATION

The facilities and services of the Ethyl Corporation, of which the educational program is typical, have been developed over the past twenty-five years. These services are available to the petroleum industry to promote better utilization of both "Ethyl" antiknock compound and the gasoline to which it is added.

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Can Be Handled at General American Termina

General American Tank Storage Terminals, lo cated at four of America's important port constitute the world's greatest public tank sto age system for bulk liquid commodities. Genera American Terminals provide you the same pr vacy, the same specialized facilities, the sam skilled handling as your own private termina Check with your nearest General America office and find out how General American Tan Storage Terminals can mean safer, more profi able storage and distribution for your produc

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Lubricating Oils	Benzol	Fish Oil
Naphtha	Xylol	Cotton Seed O

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NATIONAL PETROLEUM NEWS

Vol. 40—No. 14 ESTABLISHED 1909 **April 7, 1948**

THE NEWS WEEKLY OF THE OIL INDUSTRY

COMING MEETINGS

APRIL

Independent Oil Men's Assn., of New England Inc., annual convention, Hotel Statler, Boston, Mass., April 13-14.

National Petroleum Council, 2nd quarterly meeting, Washington, D. C., April 15.

Empire State Petroleum Assn., Inc., eighth annual convention and Marketing Equipment exposition, Hotel Roosevelt, New York, N.Y., April 18-19-20.

Florida Liquefied Petroleum Gas Assn., Inc., meeting, Sheraton Plaza Hotel, Daytona Beach, Fla., April 19-20.

Division of Petroleum Chemistry, American Chemical Society, meeting, Chicago, Ill., April 19-20-21-22-23.

American Society of Lubrication Engineers, meeting, Hotel Statler, Buffalo, N. Y., April 19-20-21.

National Petroleum Assn., meeting Hotel Cleveland, Cleveland, Ohio, April 21-22-23.

Indiana Gas Assn., convention, French Lick Springs Hotel, French Lick, Ind., April 22-23.

Independent Petroleum Assn. of America, directors midyear meeting, Hotel Broadview, Wichita, Kans., April 26-27.

API Lubrication Committee, meeting, Hotel Mayo, Tulsa, Okla., April 27-28.

American Assn. of Petroleum Geologists, annual meeting, Shirley-Savoy, Denver, Col., April 26-27-28-29.

Liquefied Petroleum Gas Assn., annual convention, Kansas City, Mo., April 28-29-30.

Fuel Oil Distributors Assn. of New Jersey, annual convention, Hotel Berkeley-Carteret, Asbury Park, N. J., April 29-30.

Petroleum Motor Transport Assn. of Oklahoma, meeting, Tulsa, Okla., April 30.

MAY

American Oil Chemists Society, meeting, New Orleans, La., May 4-5-6.

Interstate Oil Compact Commission, spring meeting, LaSalle Hotel, Chicago, Ill., May 5-6-7.

American Petroleum Institute, Pacific Coast District, meeting, Biltmore Hotel, Los Angeles, Calif., May 6-7.

American Petroleum Institute, marketing division, Haddon Hall, Atlantic City, N. J., May 6-7.

Second Highway Transportation Congress of the National Highway Users Conference, Mayflower Hotel, Washington, D. C., May 6-7.

American Institute of Chemical Engineers, regional meeting, Hollenden Hotel, Cleveland, O., May 9-10-11-12.

American Petroleum Institute, Division of Refining, 13th mid-year meeting, Benjamin Franklin Hotel, Philadelphia, Pa., May 10-11-12-13.

Retail Gasoline Dealers Assn. of Michigan, Inc., annual convention, Detroit-Leland Hotel, Detroit, Mich., May 11-12.

National Oil Jobbers Council, quarterly meeting, Sheraton Hotel, Chicago, May 12-13.

Oil Industry Information Committee, meeting, Dallas, Texas, May 13-14.

Virginia Oil Men's Assn., spring meeting, John Marshall Hotel, Richmond, Va., May 20-21.

International Petroleum Exposition, Exposition Grounds, Tulsa, Okla., May 15-22.

North Carolina Oil Jobbers Assn., spring meeting, Charlotte, May 19.

Pennsylvania Petroleum Assn., Inc., spring convention, Bedford Springs Hotel, Bedford, Pa., May 24-25.

Contents

NEWS SECTION 15

FEATURE INDEX

WHAT THE PUBLIC THINKS—Text of the findings of the report of Opinion Research Corp. on "Attitudes Toward the Oil Industry on Shortages, Prices and Profits" as submitted to the Oil Industry Information Committee at its Los Angeles meeting 26

TOWBOAT AND BARGE CONSTRUCTION—Huge increase in activity by shipbuilders in building oil barges and towboats for inland river use is shown in survey made by NPN. Only handicap is lack of steel supply 29

TESTING GASOLINE ANTIKNOCK QUALITY—Two petroleum engineers report on test methods used in determining antiknock characteristics of gasoline. An engineering story written with a minimum of technical terms 34

DEPARTMENTS

About Oil People 69
Advertisers' Index 72
Ahead of the News 9
Editorially Speaking 23
Equipment Personals 67
Markets 53
Midwest Comment 11
Oil Prices 58
Pacific Coast Comment 13
Statistics 64
Washington Comment 11

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"Shrinkage Loss Down

TO A NEGLIGIBLE PERCENTAGE"

Pennsylvania Farm Bureau Cooperative Ass'n.

3607 DERRY STREET
POST OFFICE BOX 23
HARRISBURG, PENNA.
TELEPHONE 4-0181

February 5, 1948

Mr. Staats Abrams
Neptune Meter Co.
30 Rockefeller Plaza
New York, New York

Dear Mr. Abrams:

You will recall that when I returned from the service, one of the first things we set about to correct was the shrinkage problem we have had ever since I have been with the company.

In 1945 our shrinkage amounted to one-half of 1%. This past year, having changed our entire system to Neptunes, we have brought our shrinkage loss down to a negligible percentage which our report shows as 0.0. The total amount lost, adding the total shrinkage of our twenty-two plants over the state, is only a little more than one (1) transport of gasoline.

In 1945 and 1946, we purchased a trailer and a test can and tested every meter in the state, on an average of once a month, in an attempt to keep the meters then employed, in adjustment. Since the change-over, we have only checked the meters once every six months because more often than that was not necessary.

After some nine years of working with the problem, we are happy to say that your meter has corrected our shrinkage problem. We, of course, are well pleased and thank you for what you have done. You will, in the future, find us a 100% patron of Neptune.

Yours very truly,

William H. Fetter

WILLIAM H. FETTER, Mgr.
Petroleum Division

WHF:jb

since entire system was changed to

NEPTUNE RED SEAL METERS

RED SEAL

This trade-mark always identifies liquid petroleum meters noted for SUSTAINED ACCURACY

NEPTUNE METER COMPANY, 50 WEST 50th STREET, NEW YORK 20, N. Y.

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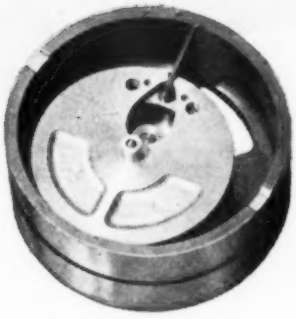
NEPTUNE RED SEAL

here's why RED SEAL meters

STAY SO ACCURATE AND ATTENTION-FREE



RED SEAL METERS are noted for sustained accuracy and freedom from maintenance because all have a soundly engineered and carefully manufactured positive-displacement measuring chamber. *The piston is the only moving part in it.*

The measuring chamber is a *functional* unit placed inside but separate from the main casing. It is completely enclosed by liquid at the line pressure—protected against distortion. Meter accuracy is independent of operating pressure.

The seal in the chamber is capillary and positive and is achieved by close tolerances in machining. No liquid can pass through the chamber without actuating the piston—displacement is always positive. That's why the Pennsylvania Farm Bureau Cooperative Association and other users write us of the fine record of sustained accuracy and attention-free service of their Red Seal Meters.

The same dependably accurate metering can be yours. See the new Red Seal Catalog. It shows the complete line of tank truck and bulk plant meters and their new, improved registers that provide easier ticket printing and easier, faster Auto-Stop settings. It also tells all about the exclusive money-saving Unit Replacement Plan. Get in touch with our nearest branch office or your Neptune petroleum equipment jobber. Do it today.

METERS

Widely Acclaimed Neptune Red Seal Pumps Have Red Seal Meters

The new Red Seal Pumps are receiving a grand reception from marketers who know that Red Seal Meters sustain their accuracy in long, hard service on tank trucks and loading racks. They also praise the inside "elbow room" that makes these pumps the easiest to install and maintain.

Neptune Red Seal Pumps are only 60" high. The "stay-new" finish lasts and lasts—requires only an occasional wash and wax job to keep it shiny bright.

DU PONT ADDITIVES... add the QUALITIES

you want to your Fuels and Lubricants

This partial list of Du Pont fuel and lube oil additives is indicative of the results of a continuing program to produce new and better additives. Each has been produced to meet a specific need . . . to add to or enhance the desirable properties of petroleum derivatives, or to arrest or inhibit deterioration caused by oxidation, polymerization, or metal entrainment. Write for complete information.

NAME	DESCRIPTION	USE
"Fluoroleum" Green Paste	Oil-soluble dye in paste form.	With "Fluoroleum" Red Paste for imparting desirable green fluorescence to oils of unsatisfactory appearance.
"Fluoroleum" Red Paste	Oil-soluble dye in paste form.	With "Fluoroleum" Green Paste for imparting desirable green fluorescence to oils of unsatisfactory appearance.
Du Pont Gasoline Antioxidant No. 5	A solution of normal butyl-para-aminophenol in alcohols.	For reducing the formation of gum and improving the stability of leaded gasolines.
Du Pont Gasoline Antioxidant No. 6	A solution of isobutyl-para-aminophenol in alcohols.	For reducing the formation of gum and improving the stability of leaded gasolines.
Du Pont Gasoline Colors	Du Pont Oil Orange Du Pont Oil Red Du Pont Oil Yellow N Du Pont Oil Blue	For color identification of gasolines.
Du Pont Metal Deactivator	An 80% solution of N,N'-disalicylidene-1,2 diamino-propane in xylene.	For improving the storage stability of petroleum distillates containing dissolved copper.
Du Pont Rust Preventive No. 1	A viscous, reddish-brown clear liquid, readily soluble in mineral oil at room temperatures.	At concentrations of 2-5% by volume in petroleum bases for imparting non-staining rust preventing properties.
"Ortholeum" 153	Fluorescent green liquid.	At concentrations up to 1% in motor oils and other lubricants to improve wear characteristics under conditions of boundary lubrication.
"Ortholeum" 202	A sulfurized terpene containing approximately 34% sulfur of controlled activity.	As a sulfur carrier where moderate sulfur activity is desired.
Du Pont Phenyl-alpha-naphthylamine	Crystalline solid.	Oxidation inhibitor for various products.
Du Pont Phenyl-beta-naphthylamine	Powder.	Oxidation inhibitor for various products.
Du Pont Tributyl Phosphite	Water-white liquid.	At a concentration of about 0.5% in oils as a mild antioxidant and as a wear reducing agent.
Du Pont Tetraethyl Lead Compound—Motor Mix	Yellow liquid antiknock compound the principal component of which is tetraethyl lead.	In concentrations up to 3.0 cc./gallon as an antiknock agent for motor gasolines.
Du Pont Tetraethyl Lead Compound—Aviation Mix	A blue liquid antiknock compound the principal component of which is tetraethyl lead.	In concentrations up to 4.5 cc./gallon as an antiknock agent for aviation gasolines.
Du Pont Fuel Oil Stabilizer No. 1	A blend comprising an antioxidant and metal deactivators in isopropanol.	Added to cracked furnace and diesel oils in concentrations of 0.001 to 0.01% by weight to improve storage stability.

Gasoline Oxidation Inhibitors

Oil Soluble Colors

Lubricating Oil Additives

Fuel Oil Additives

Metal-Working Lubricants

Corrosion Inhibitors

PETROLEUM CHEMICALS

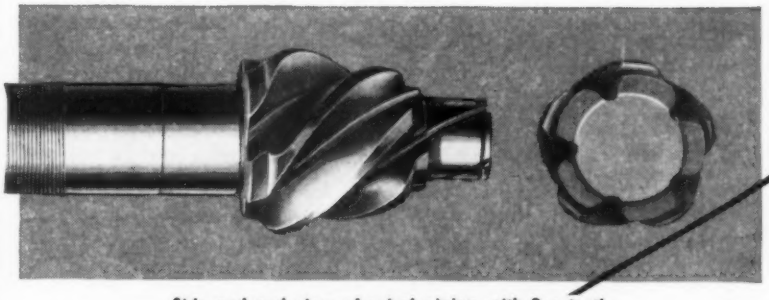
DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

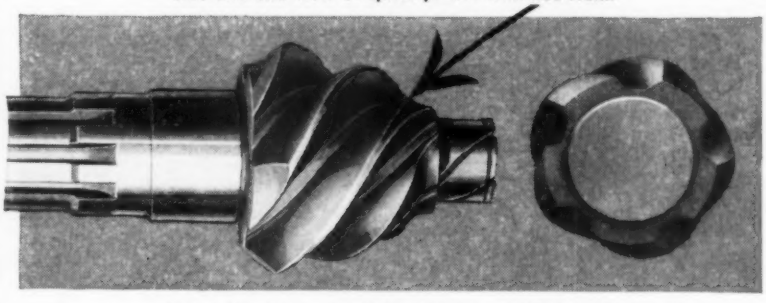
HYPOID
FOR HYPERFORMANCE

BY TIMKEN-DETROIT

BETTER — because the pinion is BIGGER!



Side and end view of spiral pinion with five teeth.



Side and end view of Hypoid pinion with five teeth.

At left are side and end views of a conventional pinion and a Timken-Detroit Hy-Performance HYPOID pinion. Both pinions have five teeth. Both are for axles of the same capacity.

Which pinion would YOU bet on for greater strength and longer life?

Greater pinion size means greater pinion strength —certainly! But HYPOID means other things as well. Bearings are bigger. More teeth are in contact, reducing individual tooth loading. Slower gear ratios are practical without sacrifice of strength.

HYPOID GEARING makes a world of difference in axle performance, but other features of Timken-Detroit's great new line of 3-for-1 Axles are just as important, just as much better. Get the facts today—compare—and then, *for payload payoff, specify Timken-Detroit 3-for-1 Axles under the next new trucks you buy!*

Single-Reduction Hypoid Gear*
Hypoid-Helical Double-Reduction*
Two-Speed Hypoid-Helical Double-Reduction*
*INTERCHANGEABLE IN SAME AXLE HOUSING USING THE SAME AXLE SHAFTS
3 for 1
TIMKEN Detroit AXLES
A PRODUCT OF THE TIMKEN-DETROIT AXLE COMPANY
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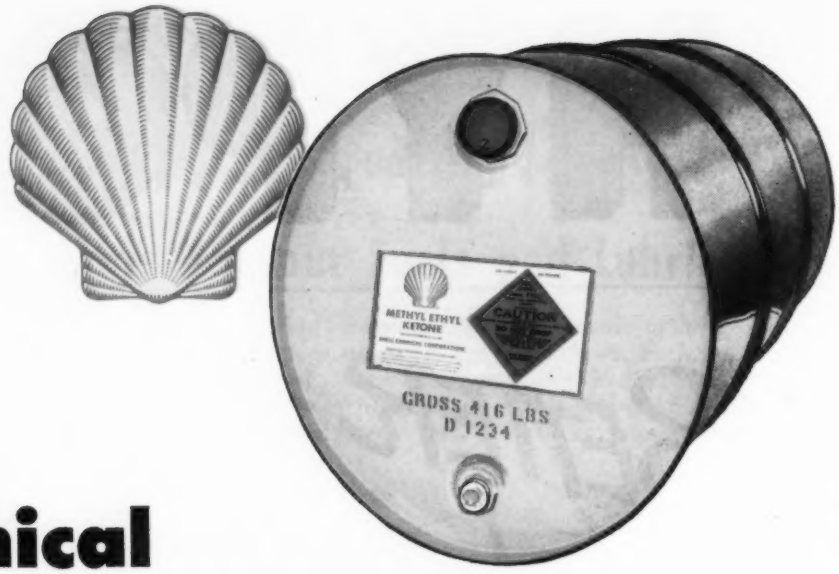
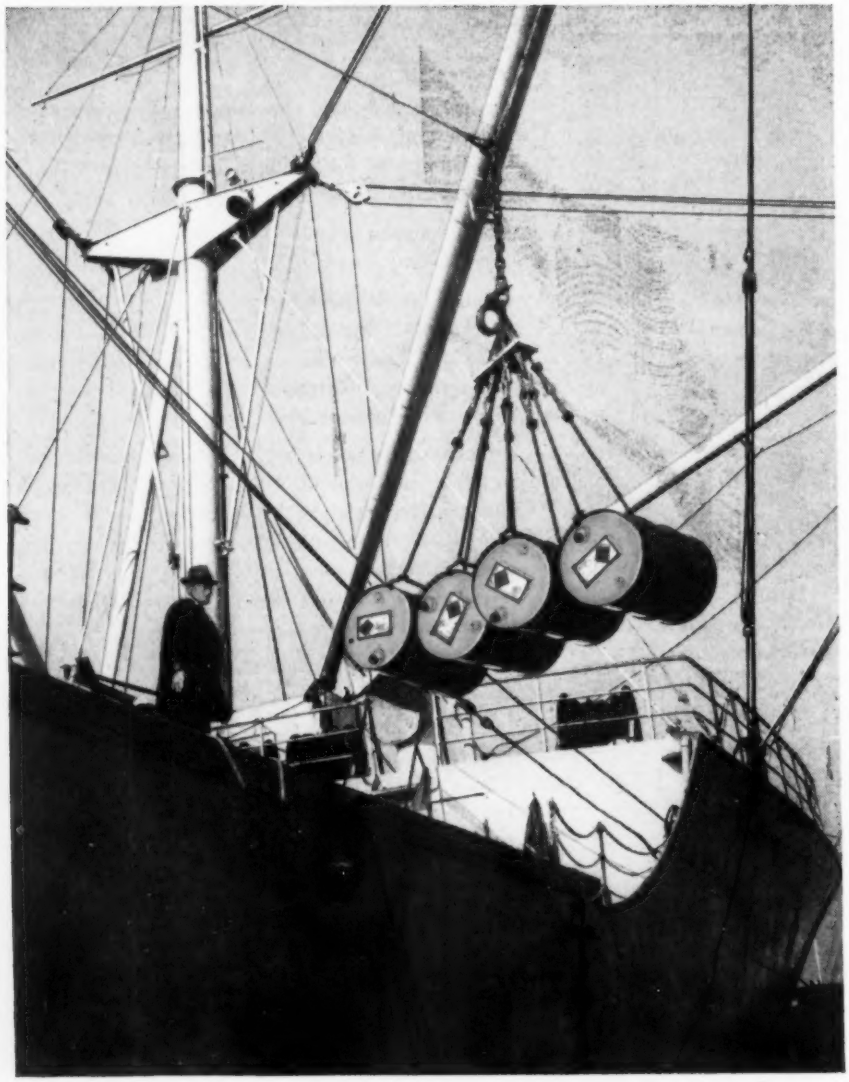


How this Shell Chemical product weathers 8000 miles



FORTY days and 8000 miles on the deck of a cargo ship are rough on chemical containers. Sometimes so rough that export drums reach port with labels torn . . . painted stencils worn off . . . identifying marks so damaged that no one can tell what is inside.

To prevent this, Shell Chemical Corporation uses a Tri-Sure Closure with color and raised code numbers on the seal. The color and the code number tell a customer anywhere in the world what any Shell Chemical drum contains.

These closures provide the *complete protection* from contamination, evaporation and substitution which Tri-Sure Closures have given Shell Chemical products since 1932. They also insure that Shell Chemical customers all over the globe receive specified products exactly as specified.

If *your* products are exposed to hazardous conditions of transit or storage, let Tri-Sure Closures give them the complete *protection* and *identification* that they are giving to Shell Chemical Corporation and other leading shippers.

Tri-Sure
Reg. U. S. Pat. Off.
CLOSURES

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TRI-SURE PRODUCTS LIMITED, ST. CATHARINES, ONTARIO, CANADA

AHEAD *of the* NEWS

FAIR TRADES LAW?—Ohio gasoline retailers are preparing to push through state legislature a fair trades bill similar to one now on the statutes in Michigan. Though no member of Ohio Petroleum Marketers Assn. has seen draft of bill as it is to be introduced in legislature, consensus is that association will oppose vigorously passage of such a bill.

●

BALKANIZE THE U. S.?—Some members of the Louisiana state legislature are said to be talking about introducing a bill at the May session which would require that the crude oil needs of the state's refineries be supplied before any crude oil could be shipped out of the state. If one state got away with such a law, others undoubtedly would retaliate. This point may be so well impressed that the whole idea may die before the bill even reaches the drafting stage.

●

ANOTHER NOOSE?—Voluntary allocations of products or material worked out with aid of government, such as the allocation of steel proposed for the oil industry, are voluntary only so long as there is no three-way agreement. The minute such an agreement is made, voluntary allocations become mandatory and to that extent, an industry places itself under government control. This is said to be one of the reasons farm machinery manufacturers backed away from proposed allocations of steel for that industry.

●

SYNTHETIC SUPPORT—Several New England senators are thinking about introducing bills somewhat along the lines of the Wolverton bill for creation of a commercial synthetic liquid fuels industry. These senators have told friends they believe Rep. Wolverton (R., N. J.) is on the right track in wanting to get started now on building commercial plants. However, they want the bills to contain clear statement of policy that the federal government won't enter the field until private industry has had adequate opportunity to do something on its own.

●

TANKERS AGAIN—Senate Small Business (Wherry) Committee is preparing to tee off for another round on the tanker situation. The committee, which protested vigorously against sale of some 83 war-built tankers to foreigners, plans to see what gives in regard to White House conferences aimed at shaping up a program for new tanker construction. Sen. Wherry (R., Nebr.), committee chairman, intends to hold hearings if he can sandwich them in between his duties as Senate majority whip and trips to his home state to prepare for his re-election campaign.

WAY THE WIND BLOWS—Don't be surprised if Interior Department plumps for the creation of a committee, composed of representatives of industry, government and the public generally, to make a fact-finding investigation of the oil situation. It has yet to respond to the demand of the American Automobile Assn. for an oil study patterned after the Baruch Committee rubber investigation in the recent war, but is inclining towards an endorsement of the idea, now that a member of the staff of the Senate Small Business Committee has captured newspaper headlines by publicly questioning the existence of a shortage, unless it be man-made.

●

BALANCING LP-GAS LOAD—An Independent LP-gas distributor operating in the South, where use of LP-gas for home heating creates a heavy winter load, is having difficulty balancing his summer-winter product purchases. His supplier is urging a one-to-one contract, and distributor is considering making a supplier contract jointly with another distributor operating in the summer resort area of upper Wisconsin, where peak LP-gas load comes in summer. Southern distributor is now wondering if supplier will go for a deal like that.

●

TAX EVASION?—There are indications that state tax bureaus may keep a closer eye on tax-exempt gasoline gallonage of farmers. Since farm equipment is expected to receive first call on gasoline supplies, there may be a strong tendency for the farmer to use some of the gasoline for pleasure driving if he can't get all he needs at the service station. Some oil men believe that city friends of the farmer may also fill up while visiting the farm. If this became widespread, it would not only evade tax but also deplete the gasoline suppiy set aside for crop production.

●

FARM CREDIT—Jobbers having a large petroleum products trade in farm areas have been noticing the effect of higher prices on their volume of credit outstanding. An opinion was expressed at the Ohio Petroleum Marketers convention that some jobbers who had no occasion to borrow money for the past 20 years would find a need for bank assistance in financing 1948 sales to farmers.

●

CAUTION—Some Midwest marketers believe that telling the farmer to conserve gasoline is a good thing, but they caution against giving him a fear complex. A rush by farmers to get their work done in less time than usual in order to beat their neighbors to the available gasoline supplies could cause acute spot shortages if the practice became widespread.

Motorists Talk

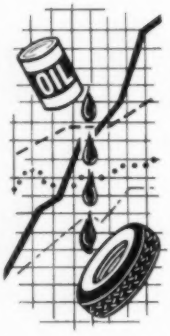
In 10 Hearst Newspaper Cities
COAST TO COAST

Wherein 34 Pertinent and Important Questions

are answered by the motorist himself

This 48-page brochure contains, in easy-to-interpret graph and chart form, the findings of the second survey of its kind conducted by Alfred Politz Research, Inc. for Hearst Newspapers

Brand usage of gasoline, oil, anti-freeze, tires and automobiles was determined. The reasons why motorists trade at one service station over another are brought to light. The make of new car they plan to purchase, and questions concerning tires . . . their purchase and replacement are taken into consideration. In all, the answers to the 34 questions covered in this survey give an intimate insight into what the motoring public wants and does not want, likes and dislikes.



5,165 interviews were conducted personally with car owners in their homes, employing the basic techniques of Alfred Politz, winner of the 1947 American Marketing Association Award for Leadership in Marketing Science.

This report is available to all interested parties in the automotive, petroleum and allied industries and their advertising agencies. Copies can be secured by contacting the Hearst Advertising Service office nearest you.

Hearst Advertising Service

Herbert W. Beyea, *General Manager*

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Mr. Yocom

WASHINGTON—By Herbert Yocom

Joint Investigating Committee Would Give Oil Real Headache

A fate as bad, if indeed not worse than outright federal control, would be the lot of the oil industry if Congress were to adopt the expected recommendation of the Senate War Investigating (Brewster) Committee that it set up a joint committee to make a "continuing investigation" of national petroleum affairs.

Just imagine Congress running the oil business, which is about what this would mean.

Such a committee, if established, would hire right-off an executive director and a staff, who, in order to justify being on the payroll, would feel duty bound to pry into every phase of every company's operations, large or small.

What busybodies they'd be. What big ears they'd all come by, from hearing the tales—true and false—that would be peddled by various and sundry. How arrogantly they'd treat the men who made this oil industry the great one that it is. And what schemes they'd concoct.

It has been awful enough, in this present session of Congress, to have a half-dozen or more committees delving into one phase or another of the "oil problem." But think what it would be like to have to put up with the antics, at one and the same time and not just today or tomorrow or next week but for all time, with a roomful of Wherrys, Heseltons and Brewsters.

Makes you break out in a cold sweat, doesn't it?

* * *

Regardless of what becomes of the Brewster recommendation, it looks as though oil can anticipate continuing in the unenviable role of the "most investigated" of all industries.

The House Commerce (Wolverton) Committee, which also favors the joint committee idea but not on any permanent basis, is a cinch to be active on its own account throughout the remainder of this session and in the next, and so, too, the House Armed Services Oil (Short) Subcommittee. Pending in the Senate is the McMahon resolution, providing for a three-stage investigation between now and next February, while the American Automobile Assn. seems optimistic as to the chances of a sort of "Baruch Committee" on oil being set up, with the membership to include representatives of industry, government and the public, generally.

* * *

Sen. Kenneth S. Wherry of Nebraska is—to borrow one of his own descriptive phrases—"a pistol."

You may not agree with him, but the hearings he conducts on Capitol Hill are so entertaining that the Senate is overlooking a bet by not charging admission. The senator runs his hearings like a three-ring circus, with Wherry in the center ring, of course. There's never a dull moment, for either witnesses or spectators, and the laughs come frequently at a one-a-minute clip.

The other day, with Interior Secretary Krug on the stand, it was not as "Mr. Secretary" that the senator interrogated him but as "Mr. Chief." And it was not the "Connally Hot Oil Act" that he was concerned about but the "Hot Oil Connally Act." Biggest laugh of all ,however, was when he spied an OGD official whispering in the ear of a witness from the Bureau of Mines. That's the sort of thing the senator is on the alert for always, and ne pounced quickly:

"Wait a minute—who are you? Have you been sworn? Oh, you haven't, eh? Well, raise your right hand. If you know anything that'll help this committee we want to hear it, too. Do you solemnly swear . . . etc."

Mr. Lamm

MIDWEST—By Earl Lamm

Fleet Record Tends to Refute Complaints of Low Mileage

The public is complaining about the high gasoline consumption of new cars. However, a study of the record of one fleet of several makes of cars does not indicate that new cars use any more gasoline than prewar models.

Returning to the complaints of the public, mere mention of purchase of a new automobile and the service obtained from it almost invariably brings mild criticism of low gasoline mileage.

We have tried this on friends, acquaintances and perfect strangers we have met on trains, in railway stations, hotels, restaurants and on the street in traveling to and from conventions and other meetings in eight states of the Middle West since Jan. 1. No particular car was involved. They were all included—Fords, Chevrolets, Plymouths, Chryslers, Buicks, etc.

For example, a responsible special representative for a major oil company, who does a lot of traveling, told us that he bought a new car in the lower price bracket last fall, has driven it several thousand miles and gets only 16 miles to a gallon of gasoline. Prewar mileage of the same make was 18 to 20 miles—average around 19. That's an increase of more than 15% in gasoline consumption. A general increase in consumption of anything like that would contribute substantially to the demand for gasoline, especially so with the number of automotive units on the highway probably passing 40 million this year.

By this time, the talked of increase in gasoline consumption had become something of a phobia with us—time to look up the records.

Automotive technicians for two major oil companies said their laboratory tests of postwar model cars of various makes revealed no noticeable changes in gasoline consumption, and since changes in engine designs have been minor, none was expected. About one car in six of a given make varies slightly and unaccountably, resulting in increased consumption by as much as three miles per gallon. But there was nothing unusual about that. It took place prewar.

Maybe then, the driving habits have changed. What do automotive expense accounts show?

We interviewed the proper department head, who told us he always had been a "bug" on tune-up. He has been head of his department since 1943, but actively in the department for 29 years. Here are his fig-

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ures, based upon the company's big fleet of more than 1,000 cars:

Managers' and assistant managers' cars (all four-door sedans—Chryslers, Buicks, Cadillacs, Lincolns, etc. . . . about 50 cars):

	1940	1944	1947
Average monthly mileage driven per car.	1,746.0	1,278.0	1,545.0
Mileage per gallon of gasoline	12.8	13.72	13.4
Mileage per quart of oil (consumption and drains)	145.29	152.87	169.0
Average total operating costs per mile, not including depreciation, taxes and license. (Company carries its own insurance)	2.56c	3.34c	4.24c

All other small cars (more than 1,000 Chevrolets, Fords, Plymouths, etc.):

	1940	1944	1947
Average monthly mileage per car	1,486	785	1,398
Mileage per gallon of gasoline	14.86	16.69	15.1
Mileage per quart of oil (consumption and drains)	171.38	153.60	191.0
Average total operating cost per mile, not including depreciation, taxes and license (company carries its own insurance)	1.62c	2.48c	2.68c

The small fleet of managers' and assistant managers' cars for 1947 are all postwar models, all larger horsepower and more expensive than previously, some of them costing up to $7,500 each. The big fleet of smaller cars for 1947 are 75% postwar models. The remaining 25% are 1941-42 models, scheduled for trade in this year.

From the above data it appears to this writer that any contention of startling increase in gasoline consumption by postwar model cars is refuted, for in mass operation the small cars averaged only 14.86 miles per gallon in 1940 and 15.1 in 1947. One reason given for this comparatively low mileage is that the average includes city driving of many cars in the fleet. The 35-mile speed limit on wartime driving accounts for the increase to 16.69 miles per gallon in 1944. The automotive operations superintendent estimated present metropolitan city driving in small cars at 10 to 12 miles per gallon; country towns at 14 miles and ordinary highway driving at 16 miles average.

Since increased gasoline consumption of new cars is not borne out by facts, then why all the complaints? Probably one answer is that few people actually have been interested in dollars and cents economy, and not all car manufacturers have consistently emphasized it in their advertising. If the present trend of business toward normal continues, economy soon will be due for attention. In any event, if car manufacturers should decide to stress gasoline economy in their advertising, it would tend to make motorists more conservation conscious, which would aid in balancing gasoline supply and demand.

Mr. Sweeney

PACIFIC COAST—By Don Sweeney

Post Card Tip Plan Keeps Company Paper Interesting

When General Petroleum Corp. decided, late in 1946, to start a dealer paper, the company asked its advertising agency to design and write a monthly publication. The only editorial policy is "whatever would interest the dealer is acceptable material."

To fill the assignment, the agency sent its men out on the road for two months to find out what does interest dealers.

That still left the barrier of producing each month the type of material that dealers said they wanted. To hurdle this barrier, General is using the best idea of all:

Each salesman carries a post card form on which he can note the name and address of one of his dealers who does an interesting or unusual thing. He sends in the card and the paper does the rest. Naturally, there is considerable competition among salesmen to see that their dealers get publicity—which doesn't hurt a bit either.

* * *

The folks at Seaside Oil Co.—which is observing its 50th anniversary this year—noticed an item here a few weeks back which made parenthetical reference to an old and colorful legend which floats around Santa Barbara, Calif., that the company was founded on the advice of astrologers.

"Not so," they said, and supplied the even more colorful truth of the early history of the organization which this year celebrates its golden anniversary.

It seems that a colony of spiritualists settled in a little coastal town called Summerland in 1895, some three years before Seaside was founded. While evidence of oil had been observed along the Summerland beaches in the early days—the first oil discovered in the state in 1866 was only a few miles away—it wasn't until the spiritualists began drilling for water that oil was actually uncovered. A real estate boom followed, completely disrupting the ghostly calm of the new community, and 25-foot lots, with oil guaranteed, sold for $75.

Seaside came along in 1898 and by 1906 had a small refining plant operating in the area, processing oil taken from what is believed to be the first submarine drilling anywhere in the world. The submarine wells, drilled from piers extending out from the beaches, were a landmark of the coast line until storms wiped them out a few years ago. The dwindling shallow production made re-equipping them unprofitable.

The company is not spending much time looking back, even in its 50th anniversary year. President H. A. Jackson has mapped a busy program for the company in 1948 with expanded and improved facilities, products and service down on the agenda.

* * *

A gasoline dealer in Las Vegas, Nevada has gone the proponents of the clean, attractive restroom one better. His name is C. J. White and the restrooms in his ultra-modern Hancock station, as well as being spotlessly clean, are *air conditioned!*

* * *

Just about every time oil men from east of the Rocky Mountains venture into the state of California they go away conscious of little differences in thinking between themselves and California oil men.

Without going into just what these differences are (since each Easterner's concept of them is a shade different), here are some statistics on California which just might be the starting point in these variances of outlook, at least where marketing men are concerned.

At the end of 1947 California had a total motor vehicle population of 3,934,095, which is close to 10% of the total for the entire United States. California showed a 13% increase during the year. Border stations counted 985,000 out-of-state cars entering California during 1947.

Though the state has only 7% of the nation's population within its borders, having a fat motor vehicle market like that right at hand, plus a huge agricultural market and a growing industrial market for petroleum products, might account for California marketers' slightly different point of view on many things.

Elzie Huot—Jobber He 'Switched' from Railroading to Oil

Elzie Huot

Thirty-seven years ago Elzie Huot, a railroad switchman, spotted a tank car for the Indian Refining Co. The more he thought about that tank car and its contents, the more he became convinced that petroleum would play a major part in the nation's future. He decided to get into the oil business, and got a job as Indian Refining's agent in Kankakee.

Mr. Huot, who is now president of his own company at Kankakee, in late February of this year was elected president of the Illinois Petroleum Marketers Assn.

In 1918, seven years after the change from railroad switchman to oil company agent, Mr. Huot and a friend organized the Baron-Huot Oil Co. in Kankakee with one service station, a team of horses and a tank wagon.

Mr. Baron retired from the partnership in 1926. Mr. Huot at the same time began handling Mid-Continent Petroleum Corp.'s products, and that company has been his supplier ever since.

TBA was just a small sideline in the company until 1930 when an expansion program was started. Baron-Huot now has a separate division, the Baron-Huot Auto Supply Co., which services accounts within a 60-mile radius of Kankakee. The auto supply division has separate offices.

Associated with Mr. Huot are two sons, Wayne E., who manages the petroleum business, and Marvin O., who manages the auto supply division. Mr. Huot is president of the company, Wayne is vice president and Marvin is secretary-treasurer.

Like many oil jobbers, Mr. Huot is a community leader. He is chairman of the Park and Recreation Board, chairman and director of the Community Fund, director of the Kankakee Chamber of Commerce, director of the Illinois Petroleum Industries Committee, director of the Illinois Business Men's Assn., chairman of the local American Cancer Society Drive and president of Kankakee Country Club.

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Oil's Steel Outlook Viewed Darkly by Commerce Dept.

Increased Demand Estimated by NPC Presents Complex Problem of Distributing Steel Supply

NPN News Bureau

WASHINGTON—With the oil industry straining every effort to close the gap between supply and demand and to obviate as soon as possible the chances of recurrent shortages, the Commerce Department still takes a decidedly dark view of the industry's steel requirements as reported by a National Petroleum Council committee.

Still utilizing its facilities to the limit in an effort to boost supplies, the oil industry has based its requirements on not only what is needed to meet current demand but what will be needed to take care of any normal increase in that demand during the next 18 months.

But the Commerce Department has found the amount of steel the industry is seeking over and above 1947 consumption so "startling" that it now feels that a lot of studying will have to be done before it can recommend to the steel industry anything like the quantities estimated by the NPC group, according to Assistant Secretary David Bruce in testimony before the House Commerce (Wolverton) Committee this week.

"Such an increase," he declared, "points to the possibility of a very serious impact upon other steel-consuming industries and to a physical lack of capacity to meet requirements for particular items."

As Commerce calculates, using background data it has assembled the NPC estimates call for 12.3% of the current rate of steel production, as compared with 5.9% in 1947 and an average of 6.2% over the last 25 years.

That, together with other elements of the NPC report, "raises complex and important problems" into which considerable inquiry is indicated, Mr. Bruce said.

If Commerce has to go into all phases which it feels are open to question, the study would take fully 60 days, an aide, Rudolph Matthes, acting chief of the Industry Division, Office of Domestic Commerce, said. The Interior Department, however, they reminded the Wolverton Committee, is screening the estimates before reporting them formally to their department.

Earlier, the Wolverton group went critically over the NPC estimates with Russell B. Brown, chairman of the committee which drew them up. Repeatedly Rep. Wolverton (R., N. J.) asked how much production or supply would suffer for every 100,000 tons of steel by which requirements might be missed—the committee indicating that it would discount NPC figures wherever it could assume that oil output would not be severely affected by a "near miss," or if "substitute" measures might be undertaken by petroleum industry.

Doubts Calculations Are Realistic

Rep. Heselton (R., Mass.) expressed doubt that the NPC calculations are realistic as regards the oil burner outlook, and voiced fear that the public accordingly might become oversold on oil heating. The oil industry and the burner industry ought to "get together," Rep. Heselton suggested.

Concern in Congress over possible increased pressure on the industry also was expressed in legislative action.

The House turned down an amendment to the European Recovery Program bill which Wolverton committee member Harris (D., Ark.) offered to prohibit use of U. S. money for purchase of petroleum equipment "to be sent to the British concessions in the Near East for British development at American expense." Arguing against the amendment, Rep. Monroney (D., Okla.) said ERP-participating countries should have a chance to develop their own oil resources in order to lighten demand on Western Hemisphere oil.

Another ERP bill amendment, offered by Rep. Isaacson (Alp, N. Y.) was rejected which would have prevented participating nations from buying Middle East oil. Isaacson, Henry Wallace supporter recently elected to fill a vacancy in Congress, had charged that five American oil companies with Middle East holdings would be the "principal beneficiaries" under ERP which earmarks about $4 billion for petroleum. Rep. Jackson (R., Calif.) said if participating countries were denied Middle East oil they would have to seek petroleum supplies in this country.

Meanwhile, Defense Secretary Forrestal was variously reported as having decided that the miliary should continue to support licensing of steel for export for the Trans-Arabian Pipe Line, and as holding up his decision pending congressional decision on inclusion or exclusion of Spain as an ERP participant.

However, it was indicated to NPN that Forrestal already has decided in favor of Tapline.

Steel Supply Insufficient

On subject of steel outlook, Commerce's Bruce said that despite substantial increases in production over the last year, supply of steel is insufficient to meet all requirements.

"There is also a severe shortage of pig iron for foundries and of foundry products for railroad equipment, agricultural machinery, petroleum equipment and cars and trucks."

While some few facilities are expected to be brought into operation this year, which should help to relieve the situation, these "are being offset by the current work stoppage in the coal mines," he added.

Weighing NPC estimates against steel industry output estimates, Bruce drew generally gloomy picture for first 12 months (beginning April 1) according to following classes of steel:

1. **Oil Country Tubular Goods**—Expected production of about 1,600,000 tons, "barring prolonged coal trouble and other abnormal interruptions," would be somewhat short of "almost 1,800,000" tons (seen needed by NPC) "but the latter could probably be met in substantial degree." This would, however, be highest output in recent years.

2. **Line Pipe**—Stated requirement of 3,400,000 tons compares with 1947 production of 1,200,000 tons. The most

pressing shortage of line pipe at the present time is in larger sizes. For pipe 16 in. and over in diameter, report shows requirements in next 12 months totaling almost 2,000,000 tons. On basis of survey recently made by Commerce as to capacity and planned production of line pipe in this category, stated requirements would be more than 25% above output.

3. **Containers** — Report estimates annual requirements of petroleum industry at more than 900,000 tons, or about twice amount received in 1947. About 5,600,000 tons of steel was used for all containers last year. To fill stated requirements for petroleum, steel would have to be diverted from other industries (not making containers) or larger share of tonnage going to container industry would have to go to petroleum industry at expense of other users of containers, "of which the food industry is the largest."

4. **Tank Cars** — Stated requirements of 16,200 cars for entire 18 months of allocations program would bring about capacity increase amounting to about 12% of existing capacity, "without considering the larger capacity of the cars which would probably be ordered." Orders for tank cars in past years indicate that the 10,800 cars requested for 12 months from April 1 would provide orders "in excess of any other 12-month period in recent years."

5. **Tankers** — Actual vessels now on order so far as is known consist of four vessels of 30,000 deadweight tons and 19 vessels of 26,000 deadweight tons, each having capacity of over 200,000 bbls. It is interesting to note that, during 1947, only three tankers were delivered. NPC report estimates that steel requirements for various types of vessels will amount to 195,890 tons, "but there is no indication of the service in which these vessels will be used or the relationship of that additional carrying capacity to the total tanker fleet." An additional requirement of 150,000 tons for the construction contracts in U. S. yards which *may be placed* is referred to in the report but is not included in the summarization. If additional requirements of such size are likely to develop into a necessary item affecting the program, they should be considered at present time. There appears to be a need for clarification on this point. Formula by which quantities for repair and maintenance were arrived at is not disclosed. Every shipyard in the world outside of U. S. has orders on hand beyond capacity. Addition of the carrying capacity represented by new construction of the 116 T2 or equivalent tankers estimated to be delivered in full 18 months of program cannot be definitely related to the job being done by vessels under U S flag as shown by Commerce data. Problem of devoting steel to maintenance of overage vessels is subject which deserves further study.

6. **Exports** — Comparison of stated requirements for exports of casing and line pipe with previous exports indicates increase of 88% over corresponding shipments in 1947. This increase is so sharp that a further analysis of requirements is clearly necessary, including particularly a study of proposed uses of the requested pipe. Further study will, of course, also have to be made of the proposed uses of the other requested items.

NPC Faces Stormy Future With New Problems and Another Senate Probe

WASHINGTON—The oil industry, as represented by the NPC, had some new problems tossed to it for study this week at the same time that it faced up against the unwelcome prospect of a new and exhaustive investigation by a committee of the Senate.

Looming farther back was the possibility of still another inquiry—by a special tri-partite commission patterned after the Baruch Rubber Committee of World War II; one that would be set up by the President and be supposed to establish once and for all the facts as to oil and what should be done about them, as urged by the American Automobile Ass'n.

Dumped in NPC's lap, meanwhile, were OGD requests that it:

1. On a just-in-case basis, recommend the sort of government and government - industry organizations, procedures and policies that would "best meet the needs" of another war emergency.

Presumably the recommendations, if any, that NPC came up with would be referred later to the National Resources Security Board, which is the government agency charged with developing the plans for total mobilization of the economy in the event of war.

2. Develop and report the complete facts regarding recent trends in manufacture, sale, installation and use of all types of oil-consuming equipment, including such as oil burners, farm machinery, Diesel engines, etc.

3. Bring up to date previous reports on the tanker situation, petroleum production and crude availability, and domestic refining capacity.

OGD requests were referred to NPC's Agenda Committee, which will give them preliminary consideration and then tell the Council, at its quarterly meeting here April 15, whether it thinks the studies ought to be undertaken.

To Receive Supply Report

Same session of the NPC is to receive final report of the Supply (Wilson) Committee which developed and ran the heating oil program during the past winter, and the recommendations of that committee on whether the regional advisory set up should be continued pending the development of a long-range supply program. Way for regional groups to continue to function already has been paved by the Justice Department, which extended life of its temporary antitrust waiver for one month from April 1 and also granted an OGD request that the clearance be made to cover gasoline as well as fuel oil.

On what NPC decides respecting the temporary program apparently hinged also the industry's decision on a longer-range plan for this summer and the next heating season.

Ignoring an OGD plea that it both organize and adopt such a program at its initial meeting here April 1, the Petroleum Industry Advisory Committee, appointed by Interior Secretary Krug determined to do neither until it can obtain the benefit of the advice of the men who coordinated the recent winter's activities out in the field, as members of the three regional advisory committees.

About all the meeting accomplished otherwise was to obtain an agreement from OGD Ball that he would recommend appointment to the Wilson (NPC) Committee of all Advisory Committee members who are not already on that group. There are 10 of these and if appointments are made it would mean, in effect, that the two committees would function hereafter as one.

Impetus for the new Senate investigation came from the Senate Interstate and Foreign Commerce Committee.

It reported favorably to the Senate the resolution by Sen. McMahon (D., Conn.) authorizing a Commerce subcommittee to inquire into every phase of the oil business, including prices, to recommend what it thinks ought to be done both about gasoline this summer and heating oil next winter, and about the specifics of a national oil policy.

Only a single member of the committee is said to have opposed the resolution, with the result that proponents view its earlier adoption by the Senate as a foregone conclusion. House concurrence would not be necessary.

Wherry Gets Blank in Move For Hot Oil Act Suspension

NPN News Bureau

WASHINGTON—Chairman Wherry (R., Nebr.) and his Senate Small Business Committee ran into a stone wall last week in their joust with President Truman and the Interior Department over suspension of the Connally Hot Oil Act.

Mr. Truman flatly denied a request by the committee for suspension of the law on grounds that state proration officials were unduly holding down production and therefore the Connally Act should be suspended. The President said suspension of the act would result in "possible encouragement of production and interstate shipment of contraband oil in violation of state laws."

Interior Secretary Krug was called before the committee on April 2 and asked what he thought of the President's decision. Mr. Krug said he agreed, declaring that it is "practically the unanimous opinion" of both private and government experts that state allowables are not too low but are "too high in some areas" to get the maximum production over the long haul.

Following up his boss' testimony, Interior's Oil and Gas Division Director Max Ball gave the committee another jolt when he bluntly disputed an assertion by Sen. Wherry that 300,000 to 500,000 b/d of excessive crude capacity is not being produced in West Texas.

Mr. Ball said Texas Railroad Commissioner Murray told him in a telephone conversation last February that there was no excess productive capacity in that area.

Sen. Wherry had expressed the opinion that more crude could be produced from West Texas fields if the President would suspend the Connally Act and that this crude would result in more tractor fuel and motor gasoline supplies this spring and summer for midwestern farming areas and other sections of the nation.

Secretary Krug told him that Interior believes all states with proration laws are producing crude at maximum efficiency rates and Mr. Ball chimed in with statement that the maximum efficiency rate of production for country as a whole was reached by the middle of last winter.

Opposes Federal Encroachment

Mr. Krug said he was opposed to any federal encroachment on state oil conservation activities and that he sees "absolutely no reason" for suspension of the Hot Oil Act.

"On the contrary," he said, "this is the time when the states need federal support the most."

The Interior secretary stated that he believes the Connally Act could only become inoperative when state production is geared to a production program contrary to good conservation practices.

In reply to committee assertions that perhaps state proration laws are unduly restricting production and thus forcing up the price of oil in a period of short supply, Mr. Krug declared that there is "no evidence" that any state is limiting crude production in order to boost the price.

Mr. Krug stated that the "price factor has nothing whatever to do" with the Connally Act. As he sees the act, the Interior secretary said, its purpose is to make sure that wells are not produced above MER levels and to make certain that prorata state allowables are not violated by shipments in interstate commerce at times when allowables are fixed by states at less than MER levels.

Earlier, the Interior secretary told Sen. Martin (R., Pa.), a member of the committee, that he believes "petroleum prices have not increased out of line" with price advances on other commodities, such as corn and wheat, but has gone up more than coal or steel.

Sen. Martin said the whole picture of petroleum prices is quite "confusing." He said refiners are complaining to him that crude prices are too high and they can't make a fair profit while producers take the stand that crude prices they are getting are too low.

For instance, he went on, some Independent producers of marginal wells in the Appalachian area are thinking about shutting down their wells and selling the well-equipment because they can get more money for the equipment than they could get in 10 years of keeping the wells in production.

The Pennsylvania lawmaker said he was concerned because once the wells are shut down there is little likelihood that they will be re-opened.

Sen. Martin and Mr. Krug both agreed that petroleum as a national defense problem was one of great importance to both the government and industry. The secretary said that the big question confronting government today is "what to do" to meet rising demands, both from civilian and military consumers.

Two Steps Being Taken

Two steps, Mr. Krug said, are being taken: (1) increase production and imports, noting that Commerce Department in administration of the voluntary steel industry agreement has consented to give petroleum a priority on steel supplies, and (2) support the voluntary oil industry program for consumer conservation. In regard to the second step, he declared "luxury uses" of petroleum must be cut drastically and there must be a "really all-out conservation program."

Turning frequently to Paul Hadlick, the committee's special counsel for its petroleum investigation, for support of his views, Sen. Wherry declared that he still believes Mr. Truman should suspend the Connally Act because there is a lack of parity between supply and demand. The Nebraska senator stated an "entirely different" situation exists now in comparison with 1935 when the act was first passed.

Then, Mr. Wherry continued, there was an abundance of petroleum supplies while at present there is an "under-supply."

In his reply to Mr. Truman's letter turning down his first request for suspension of the act, Sen. Wherry wrote the chief executive that suspension would put oil-producing states on notice that if they "did not meet demand then the assistance offered by the federal government would be withdrawn."

At the opening of the hearing, Secretary Krug told Sen. Wherry that any estimate on the extent of petroleum shortages would be a guess. However, he said a figure of 15% would "not be too far out of line."

Compliments Industry

He went on to say that current crude production is running around 5,400,000 b/d and he believed that up to 20% more crude could be sold if it were possible to produce it. Mr. Krug complimented the oil industry on its efforts to expand production but noted that it would be at least two or three more years before any substantial expansion could be achieved.

Mr. Hadlick remarked that declining crude supplies threaten curtailment of production by Independent refiners by as much as 20% in some instances. He read a letter to the

Florida Protestor Loses

Mayor E. Tinsley Halter of West Palm Beach, one of the Florida mayors who joined the junket to Washington to petition Congress to revive price and rationing controls over the oil industry, was defeated for re-election soon after his return from the Washington trip, NATIONAL PETROLEUM NEWS learned this week. Mayor Halter was voted out of office in the regular municipal election.

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committee from Brown L. Meece, Globe Oil & Refining Co., in which Mr. Meece said his customers face cuts up to 20% within next 60 to 90 days unless crude supplies increase.

In his letter, Mr. Meece also declared that his company's customers would have to pay from 2c to 4c above the "current market price" to bolster their products supplies with purchases elsewhere.

While the committee was having little luck in its tilt with Mr. Krug, it was making some headway in getting tank cars for tractor fuel movements from the Southwest to farming areas of Minnesota. Following a committee hearing April 1, the Office of Defense Transportation held a meeting here with Minnesota tractor fuel marketers and tank car operators.

The Union Tank Lines agreed to supply sufficient cars to enable the Midland Co-operative Oil Co., St. Paul, to continue hauling gasoline from the Great Lakes pipe line during the spring plowing and planting season. This enables Midland to transfer 60 of its own cars out of that service into tractor fuel movements from the Southwest.

Charge 'Squeeze Plays'

At the hearings on the tractor fuel situation, Minnesota's two Republican senators, Joseph Ball and Edward Thye, charged that "squeeze plays" were forcing Independents out of the tractor fuel business in their state.

In asking ODT to help out, Sen. Ball asserted that he believes the "shortage" is being used by big companies "to change the whole pattern of distribution" in the oil industry. Sen. Thye said thought should be given to the question of whether some suppliers are "squeezing" Independents by channelling supplies to their own direct marketing outlets.

Sees Rationing 'If . . .'

NPN News Bureau

WASHINGTON—Price and rationing controls on oil are "inevitable" if Congress authorizes "a big increase" in national military establishment, Rep. Short (R., Mo.) told NPN April 6.

The Missouri lawmaker, chairman of the House Armed Services subcommittee studying the oil picture, said he didn't see how price and rationing regulations on both oil and steel can be avoided if the military forces are built up rapidly.

However, he said he didn't expect Congress to do anything about petroleum prices and rationing "before the election." After that, everything will depend upon how large the military establishment becomes.

A Chummy Argument That Decided Nothing

NPN News Bureau

WASHINGTON — It was "Paul, Max and Cap" in a real buddy-buddy atmosphere when Paul Hadlick, special oil counsel for the Senate Small Business Committee, OGD Director Max Ball and Interior Secretary J. A. "Cap" Krug finished arguing about the Connally Hot Oil Act.

The sweetness and light was shed at a hearing of the committee on the merits of the act and despite the pointed use of first names, nobody was convinced and nobody took back anything.

At only one point in the hearing was there any reference to charges made the previous day, April 1, by Mr. Hadlick in an appearance before the District of Columbia Public Utilities Commission to testify on the availability of gasoline this summer to operate local busses.

That was when Mr. Krug, noting that his department has been co-operating with industry in a campaign for consumer conservation of petroleum products, waved in front of the committee a local newspaper story with big black headlines.

The story recounted statements by Mr. Hadlick contending the last winter's shortage was "man-made" and —as Mr. Krug put it—"conservation was the bunk." The Interior secretary declared all of the department's conservation efforts never got that much publicity.

Committee Chairman Wherry (R., Nebr.) chuckled, remarking:

"I'm glad that somebody on this committee is able to get us some publicity."

Mr. Krug wasn't so happy about the matter, telling Sen. Wherry that he regretted that "your friend and my friend, Paul" saw fit to make such a statement in his capacity as special oil counsel to the committee.

"Let's not tell the people we can get all of the petroleum we need by jiggling around the regulations," the Interior secretary declared unsmilingly. "It just isn't true."

In his appearance before the D. C. commission, Mr. Hadlick also charged that Mr. Ball, who, too, had testified before the commission, was indulging in "publicity stunts" in predicting gasoline shortages for this summer. Mr. Hadlick asserted that "someone should be held criminally negligent, either in government or industry, if there is a shortage next year."

"Many people suspicion," he went on to charge, "that Max Ball is talking for the major oil companies when speaking of shortages."

None of these charges was mentioned in the Wherry committee hearings, although prior to testifying in the senatorial hearing, Mr. Ball caustically remarked that he wouldn't "dignify" the "ridiculous" Hadlick charge with a reply.

Mr. Ball's testimony before the Washington Public Utilities Commission, in which he recommended against converting from street cars to busses, also drew the fire of Russell B. Brown, general counsel of the Independent Petroleum Assn. of America.

Mr. Brown said petroleum suppliers themselves are best "judges" of where their products are to go and recommendations such as Mr. Ball looked like a side-door approach to controlling the "end-use" of gasoline.

Dist. 2 Meeting Set April 12

CHICAGO—Chairman B. L. Majewski April 2 called a meeting of the Dist. 2 Regional Advisory Committee for 10 a.m. Monday, April 12 at the Morrison Hotel here.

Co-Op Tax Bill Introduced

WASHINGTON—Bill (H. R. 6103) has been introduced in House by Rep. Gathings (D., Ark.) to repeal federal income tax exemptions now allowed co-operatives under Section 101 (12) and (13) of Internal Revenue Code. Effective with respect to taxable years beginning after Dec. 31, 1947.

1948 Burner Output Seen About Half of 1947 Total

NPN News Bureau

CHICAGO—R. S. Bohn, president, Oil Heat Institute, at opening on National Oil Heat Exposition in Chicago Coliseum April 5, said that prospective increases in fuel oil supplies would take care of 350,000 new power burners and 650,000 new space heaters in 1948. These would be in addition to 150,000 power burners and 350,000 space heaters for replacement for a total burner production of 500,000 pressure burners and 1,000,000 space heaters for the year.

These figures compare with a 1947 production of about 1,000,000 power burners and 1,900,000 space heaters.

Estimate of increase in fuel oil supply was based on "a factual survey recently completed on the capacities of the petroleum industry" said Mr. Bohn, explaining that the figures were a forecast by the oil burner industry and not a commitment by any segment of the petroleum industry to supply that much additional oil.

Gasoline Stocks, Refinery Operations Dip Slightly

By NPN Staff Writers

March 27 saw gasoline stocks drop for the first time this year, though they remained at a very high level. In Dist. 2, however, stocks still were lower than a year ago.

According to API total gasoline stocks was 112,991,000 bbls., a decline of 256,000 bbls. from a level of 113,-247,000 for the previous week.

Refinery operations slumped again, going from 92.6% of rated capacity as of March 13 to 91.5% March 20 and then to 91.2% on March 27. Crude runs to stills declined 20,000 b/d, from 5,344,000 b/d on March 20 to 5,324,000 b/d March 27.

In Dist. 2 gasoline stocks declined 59,000 bbls., putting the total 995,000 bbls. below a comparable date last year. Breakdown on Dist. 2 gasoline stocks follows:

Gasoline Stocks

(000 omitted)

	Mar. 27, 1948	Mar. 20, 1948	Mar. 29, 1947
Appalachian No. 2..	1,017	1,049	949
Ind.-Ill.-Ky.	21,698	21,640	22,760
Okla.-Kan.-Mo.	10,958	11,043	10,959
Total	33,673	33,732	34,668

The past week saw these other developments on the nation's petroleum supply front:

Preference in distribution of gasoline will be given food producers, R. W. McDowell, executive vice president of Mid-Continent Petroleum Corp., declared this week. He added that preference also will be given to any other essential industry which might be affected by a tight supply situation.

In outlining industry's supply situation, Mr. McDowell indicated that all available facilities are being utilized and production has been increased to the point where supply and demand are in reasonably close balance. The quantity of gasoline for distribution in farming areas probably will be slightly in excess of last year, but demand will be considerably heavier. Shortages which may develop are likely to be of a spot nature rather than general.

After caring for regular farm, transportation and other essential gasoline needs, Mid-Continent will prorate its gasoline supply among its other regular customers, Mr. McDowell stated.

Crude oil supply will match demand this year if there is no government interference, Chairman Ernest O. Thompson of the Texas Railroad Commission, predicted April 2, in commenting on proposals that crude production be increased by the states.

Chairman Thompson said Texas wells now produce at maximum efficient rates determined by engineers. Hearings to determine whether the MER ceiling should be raised in any of Texas' 1,260 oil fields were under way by the commission at NPN press time.

Texas is producing 2,400,000 b/d of crude oil upon allowables totaling 2,589,000 b/d fixed by the Railroad Commission.

Twenty-six hundred producing wells have been drilled in Texas this year, compared with 1,912 for the corresponding 1947 period. This includes 446 wildcat explorations, against 331 last year. Sixty-six new oil and 16 gas reservoirs have been discovered this year.

"With adequate price and sufficient pipe, the oil supply will be within balance again within this year, provided there is no government interference," Col. Thompson said. He has opposed suggestions for gasoline rationing and for setting aside the federal Connally Act, which forbids interstate movement of crude produced in excess of state conservation laws. He reiterated an opinion that wider use of regular grade gasoline by many motorists would give performance equal to premium gasoline, save crude, and save money.

In Nebraska and Iowa rather serious shortages of tractor fuel are anticipated this spring, in the view of industry spokesmen.

H. H. Hahn, executive secretary, Nebraska Petroleum Marketers Assn., said several communities in Nebraska were without tractor fuel and shortages in other areas statewide revealed supplies were 25% of the season's requirements.

Though no one seemed to have an answer to the problem at a March 23 Omaha meeting, A. J. Wolken, investigator for Senator Wherry's Small Business Committee, asked oil men present to send in reports of their sales volume for the past three years.

In Iowa, where the tractor fuel shortage "seemed to come out of a clear sky," J. A. Dennis, secretary of the Iowa Independent Jobbers Assn., said the jobbers there intend to "do something about it." Farmers have enough fuel to "just get by," he said, but they have only begun to work in the fields in the southern part of the state—in the north, fields were too wet.

Problem of transporting tractor fuel from Texas to customers of Midland Co-Operative Oil Co. in Minnesota apparently was settled satisfactorily April 2 at a conference arranged by ODT when Union Tank Lines agreed to supply sufficient tank cars to enable Midland to continue hauling gasoline off Great Lakes products pipe line during spring plowing and planting. This enables Midland to transfer 60 of its own cars out of that service into hauling tractor fuel it has purchased in Houston.

A rather dark picture was painted last week by State Fuel Oil Administrator Anthony E. Madler in his report to Gov. Oscar A. Rennebohm of Wisconsin, U. S. Senators and all Wisconsin members of Congress, wherein he said he saw "little prospect of substantial improvement" in the heating oil situation for next year.

"Because of the steadily growing demand for fuel oil, the petroleum producing, refining and distributing industries cannot hope to keep pace with the demand thus being constantly increased unless sufficient steel is allocated to those industries for much needed expansion of their facilities," he stated.

In New York State it appeared the New York Barge Canal would open April 12 unless repairs now under way on the federal lock at Troy run over that date.

Adding to potential gasoline demand is the steady increase in motor vehicle sales. Total factory sales from U. S. plants during the first two months of this year totaled 716,-748 motor vehicles, as compared with 634,691 for the same period last year, a gain of nearly 13%, according to Automobile Manufacturers Assn.

In Connecticut Charles N. Mitchell, chairman of the state's Advisory Committee on Fuel, pointed with pride last week to the record of the state's emergency committees in disbursing more than 9 million gals. of fuels during the past season's shortage.

"No one in the State of Connecticut was cold or suffered hardship because of lack of fuel during this past exceptionally cold winter," Mr. Mitchell declared in announcing official closing of the committee's offices as of April 1. At request of Governor Shannon, however, the advisory committee will continue in existence to give the governor whatever assistance he may need on future fuel problems, Mr. Mitchell said.

Standard Oil Co. (Indiana) last week indicated that it felt consumers have really helped save fuel oil. This is indicated by thousands of letters and comments received by the company, Indiana Standard officials reported.

Daniel Moran and Norton Weber Die

Mr. Moran

Daniel J. Moran, 60, retired president of Continental Oil Co., died April 3 in a Houston hospital following an extended illness. Born in the shadow of an oil derrick at Cygnet, Ohio, Mr. Moran began his career in the oil industry at the age of 10 as a messenger in the Lima, Ohio, offices of Buckeye Pipe Line Co. during vacations and after school.

After obtaining his bachelor of science degree at University of Dayton and doing graduate work in Cleveland at Case School of Appied Science, now Case Institute of Technology, he worked in the oil fields. His early experience included jobs as lease operator, pumper, and telegraph operator. When he joined The Texas Co., working in the marketing department, he developed Texaco's fuel oil market along the Atlantic Coast and built many bulk plants. Later he was transferred to the refining division and assigned to Port Arthur. He became chief engineer and was largely responsible for building Texaco's Port Arthur refinery. Next he was sent to Mexico where he built two refineries and extensive pipe line facilities.

In 1921 Mr. Moran was made vice president and general manager of The Texas Co. of Mexico of which he later became president. Called back to the United States, he built several seaboard terminals and became general manager of Texaco's producing department. He served later as a vice president, director and member of the Executive Committee.

In 1928 Mr. Moran joined the Marland Oil Co. as president. He directed reorganization of this company and consolidated it with Continental Oil Co. of Maine to form the Continental Oil Co. of Delaware. Continental expanded considerably following the merger.

Besides serving as president, director and member of the Executive Committee of Continental, Mr. Moran was president and director of Continental Pipe Line Co., Hudson's Bay Oil & Gas Co., Texon Oil & Land Co., Group No. 1 Oil Corp., Group No. 2 Oil Corp., and the Buck Creek Oil Co.; board chairman of Great Lakes Pipe Line Co., and director of Navarre Oil Co.

Survivors include Mr. Moran's widow, a son, a daughter, four brothers and a sister.

* * *

Norton H. Weber, 76, former vice president and director of Pure Oil Co., died April 4 at Evanston Hospital, Evanston, Ill., as result of a heart attack.

Born at Dempseytown, Pa., nine miles from the original Drake well, Mr. Weber spent 61 years in the industry. His first job in the oil field was as a "duster," hauling water to a drilling rig atop a long hill, when he was only 15. Next he hauled crude oil from wells at Titusville to refineries at Oil City and Rouseville, and on return trips delivered kerosine to country stores for resale to farmers for use in "coal oil" lamps and for sore throats and sprains. At 20, he became a railroad clerk, handling petroleum and oil equipment.

On March 1, 1899, Mr. Weber became credit balance clerk for Producers & Refiners Oil Co. in Oil City, one of the predecessors of Pure Oil Co. Successively, he became a bookkeeper for Pure Oil Co., of N. J.; manager of United States Pipe Line Co. and director of Producers & Refiners. In 1920, when the present Pure Oil Co. was formed, he became a vice president and served in that post until recently.

Active in trade association work, Mr. Weber served as president of National Petroleum Assn. for several years, and was a member of API and of the 25-Year Club. He was a Mason and an Odd Fellow. He made his home at 615 Cherry St., Winnetka, Ill., a suburb of Chicago.

He is survived by his wife, Mrs. Nellie Weber, and five daughters.

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Oscar L. West, 46, manager of the real estate and development department of Shell Oil Co.'s Cleveland division for the last 16 years, was killed April 5 when his automobile went out of control north of Columbus, Ohio, and crashed into a culvert. A native of Cleveland, he started work for Shell in Indianapolis 22 years ago as a clerk, being transferred to his home town after six years. In his managerial post he had charge of acquisition of service station and bulk terminal locations in Ohio and sections of Kentucky, Pennsylvania and West Virginia,also handling leases and real estate sales. His wife, Verna, and a three-year-old daughter, Joyce, survive.

Oil Companies Spending More Than They Earn

Seventeen oil companies that have issued their 1947 annual reports so far made capital expenditures in 1947 amounting to 72% more than net earnings, a study of the reports by NATIONAL PETROLEUM NEWS shows.

The following table compares both net earnings and capital expenditures for both 1947 and 1946:

Company	1947 Earnings	1947 Cap. Exp.	1946 Earnings	1946 Cap. Exp.
Atlantic Refining	$15,897,652	$38,890,000	$ 9,633,626	$34,853,000
Cities Service	40,464,786	96,000,000	27,253,120	33,000,000
Continental Oil	31,356,663	45,604,741	19,013,899	32,270,017
Deep Rock	2,574,875	3,320,440	1,879,170	3,095,879
Mid-Continent	17,638,932	22,311,737	10,084,581	11,521,718
Ohio Oil	29,161,496	26,791,000	18,253,236	14,014,000
Phillips Petroleum	40,893,647	87,883,694	22,625,151	48,094,600
Plymouth Oil	4,197,419	4,365,000	2,105,239	2,958,000
Pure Oil	21,197,069	39,000,000	17,107,961	29,000,000
Socony-Vacuum	97,708,927	141,400,000	58,310,569	103,700,000
Shell Union	59,874,698	138,431,000	32,880,417	65,542,000
Standard Oil (Ohio)	16,390,585	29,130,113	10,324,797	21,006,672
Standard of Calif.	107,268,575	148,000,000	66,956,611	116,000,000
Standard Oil (Ind.)	94,880,715	220,000,000	67,649,785	159,000,000
Sun Oil Co.	24,339,913	37,459,000	14,726,551	28,400,000
*Sunray Oil Corp.	10,008,610	14,000,000	4,275,717	.....
The Texas Co.	106,312,617	138,157,072	71,089,267	73,957,565
Union of California	17,973,360	36,289,849	8,867,023	30,078,653
	$728,131,929	$1,253,033,646	$458,761,003	$806,492,104

* Not included in totals because 1946 capital expenditures figure missing.

Editorially Speaking

Stakes Are Too Big for Oil Industry to Overlook Any Details in Preparedness Against Possible War

AS THE situation with Russia grows more critical seemingly every day, every top oil executive could well ask his associates if his company is doing everything that it can and as rapidly as it can to prepare for oil's part in any next war.

No executive should take anything for granted. On the contrary he should call for immediate and detailed reports of the exact status of his company's relationship with military preparedness and then he should give specific instructions to rush all preparations.

If the executive, or any of his associates, thinks that war will not come or is remote, he still should proceed with the greatest dispatch just as if he thought war will be here tomorrow, because IF the oil industry is not fully ready, IF the oil industry has not done ALL that the military authorities have asked it to do, and IF the oil industry has not anticipated everything that it and the military should do, it will be a sad, sad day for the oil industry and for the country if and when any trouble breaks. A billion dollars spent every month on public relations advertising will not save the oil industry from the greatest flood of criticism in its history if bombs come flying over and oil is not fully ready.

Organizing of the industry on reserve personnel alone is a big job. More than a year ago, at a luncheon given at Chicago by Quartermaster General Larkin to some oil men to discuss reserve organizations, Chairman Wilson of the Standard of Indiana, and the idea was concurred in by H. F. Sinclair and R. G. Follis vice chairman of Standard of California, who were present, said that this is a big enough job to warrant the API having a special executive vice president devote his full time, not only to seeing that the oil reserves were organized properly but that all the other relationships between oil and the military were intelligently and promptly tackled and pushed as rapidly as possible.

What especially has to be done is to put into effect a plan which the military have worked out whereby complete oil handling units, men who are expert in building and operating pipe lines, tanks, can and tank filling racks, terminal tanks, and tank trucks are organized so they can jump into action on a few days notice. But these units must be so organized that they do not take from the oil companies the men needed for civilian operation.

What also has to be done is to develop with the military the industry's best ideas for oil handling equipment to meet the military demands and at the same time have domestic equipment of such a type, quality and in sufficient quantities so that it can be used, when necessary, to supplement the military's requirements. For illustration, the last war probably would have been over sooner had the military foreseen the enormous consumption of engine fuel and among other things had forgotten its stiff specifications for tank trucks and hustled a thousand or two of our best over-the-road trucks to France. This next war, if there is one, will call for the fast transportation of vast quantities of motor and aviation fuel all over this country, as well as its movement at foreign air bases. There may not be time or materials to make these tank trucks. They may have to be taken from civilian use. Plans therefore should be in the making now, for the most practical of such industry equipment.

One API military committee, the Defense Services Committee of the API, Carl E. Cummings of The Texas Co., chairman, will meet at Washington April 14 and 15 to confer with the military and to formulate a report and more recommendations to the API Executive Committee which meets there on the 15th.

This committee has to do with organizing the oil reserve units, and is made up mostly of men who served in oil military forces overseas. Like all the oil industry's military men who have been overseas, they are frank to say that if every oil executive had spent just one day and night listening to flying bombs and plane-borne bombs, strafing and shells, the industry's preparations against another war would have started immediately on the ending of this last one and they would have been pushed with the greatest of dispatch.

Whatever there may be of slowness and confusion in lack of military plans, military money and congressional action, the oil industry should have had written long before this a clear record of having done all it possibly could and, in addition, the record should show that the industry had been vigorously pushing the government for its plans and decisions.

The oil industry is the reservoir of the best information on how to terminal, transport and distribute petroleum products and the public has every reason to expect the industry to use its best skill and ability to look after the public's interest regardless of what others may or may not do.

If by chance we should get into another war, the demand for oil supplies by the military will almost over-

night be the greatest in our history and the demand will continue and increase as we prosecute our defensive-offensive on a vast scale. The demand will tax every facility of supply and distribution the industry can produce, and require the most competent men to serve in such supply.

The industry must move faster. The very fate of this country and of civilization, as we know it, rests heavily on the oil industry.

The industry's responsibility is not to predict a war, or to have a very definite opinion of its likelihood. The industry's job is to be ready, if, as and when there may be a war, and to make sure it is darned good and ready.

As We Grow, We Lift Our Sights

AS the oil industry expands in its activities it expands in its thinking.

The time was when a refiner was concerned only with his immediate customers, maybe in a small area; the major was concerned only with its territory and its managers only with the area in which they sold; the jobber only with what happened in his county or two and the producer only in the well he drilled or the well drilled alongside of the lease he had or that he hoped he might get.

The other day the writer sat in the office of Harry D. Collier, chairman of the board of the Standard Oil Co. of California, and listened to a most interesting recitation of world oil affairs, with little said about California. One could not help but wonder how absent such discussions were in California oil offices even 10 to 15 years ago. Later the president of one of Socal's big producing subsidiaries remarked on how he followed the DAILY course of events all over the U. S. that pertained to oil production, tidelands, etc. (meaning, of course, the OIL-GRAM).

And the marketing men were reading daily all that pertained to the supply and demand of petroleum products.

That was a long way from the very recent days of the "dry hole" on the next farm or the so-and-so supplier who took over the service station down the street at an allegedly lower price.

The facts are that all companies have grown, grown as their presidents and officers grew to their possibilities.

The Standard of California is now operating as a producer not only in California, but in many other states in the U. S., and in Venezuela and other South American countries and in the Middle East. It is spending millions to be a producer. It is dealing with companies in most all countries and is selling direct to others. It is a big pioneer in the Middle East where it will invest a good many hundreds of millions before it has its investment out.

If one would protect a hundred million dollars or two of stockholder's money, one must think beyond the old bailiwick, beyond California, Oklahoma, Texas or New York City. And if a smaller company, one still must pause and study what goes on outside of his field, or county, because the world today is one oil unit. What happens in old Arabia or in Borneo and Sumatra or, if Russia would let us know, in Rumania, concerns every oil man.

It all calls for every one lifting his sights.

Public Relations with Orchids

MANY a resident of surrounding buildings has cursed the company that was putting up a new steel skyscraper alongside of him, as much as he liked "progress." NPN suffered for almost a year alongside of one of the finest buildings in Ohio, that of the Bell Telephone Co. It then suffered in New York while the Associated Press, then Time & Life Magazines and finally Esso Standard built new buildings alongside of our meager quarters. The din, to bring about "progress," was terrific and most annoying.

Out here in San Francisco they seem to do it differently. The Standard of California is putting up a new 22 story building but outside of the main entrance of its "old building" (only a score of years or less), it is tearing down a building for the new. Right above the sidewalk is a sign saying

"Our Apologies

"Building a new 22 story annex is a noisy business and we regret any annoyance it may cause our neighbors.

"Four more weeks until we finish the wrecking of the old-building."

NPN understands that the time will be noted on the sign for the finishing of that job, and time will be noted for the suffering neighbors for finishing the steel work and noisy construction, as well as due comfort being given to the "sidewalk superintendents" which, we believe was introduced by the Rockefellers when building the Rockefeller Center buildings.

A few blocks up the street from the Standard of Cal's building is a deep tunnel being dug by the telephone company with a little plain sign above it saying:

"We could have saved time and money running this up X street (whatever it was) but we saved you traffic inconvenience, and aided your progress home by running this tunnel on this route. Sorry." It is signed the Bell Telephone Co.

All this is a whole lot different from what a certain large and well known public utility here did during the recent—and even still present—drought, when to save current and on advice of a governor's committee, it not only reduced the AC current from 60 to 50 a minute but on another day cut off the current for a few hours a day of many customers in northern California AND ALL WITHOUT a word of warning to the poor customers. They stormed around for several days to find out why their clocks were "wrong" and a few more days to find out why they could not cook.

A few kind words to the customers are the "orchids" of good public relations.

Explaining how the industry's progress demands new buildings in the heart of a city helps those the noise discomforts, helps sell that PROGRESS that the oil industry is so much delivering to the public these days.

This is true whether you are erecting a 22 story building in San Francisco or a 60 story building in New York or a one or two-story building back in a small town. New buildings create din, for which you may well offer your apologies and send orchids, but they also mean progress which is what ALL of your neighbors are the most interested in.

But don't forget the orchids. They help sell the PROGRESS.

Gasoline from Natural Gas Will Cost 9.14c per Gal., WPRA Meeting Told

Coal Synthesis Would Require Large Investment, High Manufacturing Cost, Alden and Clark Tell Refiners

By D. P. THORNTON, JR.,
NPN Staff Writer

GALVESTON — The synthesis of liquid fuels from natural gas will require investments ranging from $3,000-4,000 per b/d and cost 9.14c per gal. without credit for chemical by-products, R. C. Alden and Alfred Clark, Phillips Petroleum Co., Bartlesville, told Western Petroleum Refiners Assn. at its 36th annual meeting here April 5-7. The steel requirement is about six tons per b/d. To make gasoline from coal would require approximately twice the investment and double the amount of steel. The manufacturing cost would run from 11.4 to 16.4c a gal.

Alden and Clark said to produce 650,000 b/d of synthetic oil would first require 10,000 cu. ft. of natural gas or 1,360 lbs. of coal per gal. of motor fuel produced. Gas synthesis plants would cost $2.6 billion to build, require 3.96 million tons of steel; coal synthesis plants would cost $5.2 billion, use 5.65 to 7.80 million tons of steel. Natural gas reserves required for 20 years' operation is 47.5 trillion cu. ft.; 2.92 billion tons of coal.

On the question of reserves, the authors pointed out that gas reserves currently are estimated at 165.9 trillion cu. ft. and reserves of total liquid hydrocarbons approximately 2,512 billion bbls. Since 50% of the energy in natural gas would be absorbed in the synthesis operation, the fuel oil equivalent of the gas used for synthesis is 13.8 billion bbls.

About 85% — 11.7 billion bbls. — would be gasoline and, at presently estimated demand, our gas reserves, would last about 13 years. This is also the estimated life span of our estimated demand, our gas reserves however, amount roughly to 3.2 trillion tons, and will be equal to 4.7 trillion bbls. of gasoline. Thus it becomes apparent, they said, any significant long-range liquid fuels program must be based on coal.

Gas synthesis will be limited to those regions where sufficient gas reserves are available, 0.5 trillion cu. ft. being necessary to run one 7,000 b/d plant for 20 years, they said.

In conclusion, Messrs. Alden and Clark pointed out that:

"Future gas synthesis operations, up to several hundred thousand b/d, could be sustained by our natural gas resources provided (a) the operation can compete economically with processing of crude oil and (b) can pay a price sufficiently high for natural gas to stimulate new discoveries. Much will depend on the engineering and economic outcome of the two plants being built and on interim research and development programs. As things stand, and with a marginal long term profit prospect, a very large investment requirement, and most important gas reserves committed otherwise, it is quite likely new gas synthesis operations will be undertaken slowly."

Synthetic Chemical Production

In discussing "Applications of the Fluid Catalyst Technique to Catalytic Cracking and Hydrocarbon Synthesis," R. W. Krebs, Esso Laboratories, Baton Rouge, also brought out that we have enough underground hydrocarbon reserves via the synthesis route to last for 1,000 years and that, assuming a quarter of our natural gas reserves were converted to liquid fuels, our petroleum reserves could be extended 30-40%.

Particularly on chemicals Mr. Krebs' figures are in agreement with data which also were presented by Alden and Clark; his comments on costs of synthetic fuels are likewise in agreement. He stated that if 10 synthesis plants were built, each having a nominal capacity of 7,000 b/d, the resultant chemicals would amount to an average of 68% of the product now produced by the present U. S. organic chemical industry. Chemical production figures are calculated from estimated organic chemical production from the Carthage-Hydrocol plant now under construction at Brownsville, Tex., and are compared with U. S. production in Table 1.

Standard Oil Development Co. has quoted cost of gasoline from natural gas of 13c a gal. including return on investment and amortization, he stated. This can be compared roughly to 14c from crude produced in newly constructed equipment operated for maximum gasoline production, 16-17c from coal and 16c from shale.

Octane number level of motor gasolines will not increase as rapidly as in the past, primarily because over $4 billion must be spent by the oil industry over the next several years to meet quantity demands alone. This was the comment of W. M. Holaday, Socony-Vacuum Oil Co., Inc., New York, in discussing "Motor Gasoline Refining and Utilization." Moderate increases in antiknock quality should result from the installation of modern equipment in this expansion program, he stated.

Significant improvements in fuel economy can be achieved by the use of high compression ratio engines and high octane number fuels. However, any consideration of utilizing high compression ratio engines must be on the basis of improved fuel economy and not on the basis of improved vehicle performance, he added.

Work with the new high compression ratio engines shows that these engines favor "sensitive" fuels of high Research octane number. To the refiner this indication, along with other factors, points to the advantageous use of catalytic cracking and concurrent catalytic polymerization operations, he continued.

Additives Improve Lube Quality

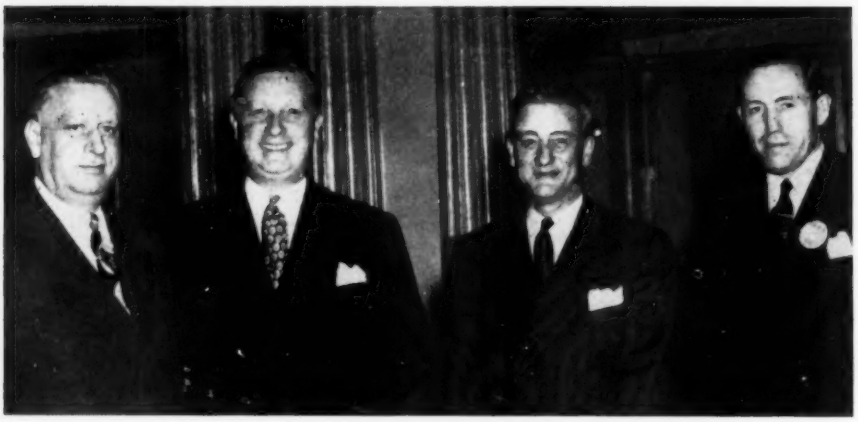
C. J. Livingstone and W. A. Howe, in a paper "Improving Engine Lubricating Oils Through the Use of Additives," brought out that the actual lubrication of auto and truck engines is not a great deal more difficult than it was 12 or 20 years ago. Cooling function has been made more difficult because crankcase capacities have not changed, sealing function is more difficult because of higher temperatures in the ring zone, and the cleansing functions have been given more importance, especially in ridding the engine of deterioration products.

High viscosity index, low pour point, anti-foaming properties and anti-rusting properties can be obtained or at least improved, through the use of readily available additives. Oxidation resistance, anti-bearing corrosion and detergency likewise can be obtained and improved with commercial additives. Unfortunately, the determination of the proper additives and the right quantities to be compounded with a given base stock for these latter qualities can only be evaluated by conventional engine testing.

Table 1
Production of Important Chemicals by Ten Hydrocol Plants Compared with U. S. Production (5)

Product	Date (U.S.)	ANNUAL PRODUCTION United States (1000 Lb.)	Ten Hydrocol Plants (1000 Lb.)	Ratio Hydrocol to U.S. Prod.
Acetaldehyde	1946	352,000	91,000	0.26
Acetone	1946	335,000	112,000	0.33
Ethanol	1943-45	830,000*	636,800	0.77
n-Propyl Alcohol	1946	141,000**	144,000	...
n-Butyl Alcohol	1946	126,000***	43,700	0.35
n-Amyl Alcohol	1946	15,000	10,600	0.71
Acetic Acid	1946	285,000	247,000	0.87
Propionic Acid	....	.....	87,000	...
Butyric Acid	....	.....	42,000	...
Totals		2,084,000	1,414,100	0.68

* Excluding allocations to acetaldehyde and acetic acid.
** Isopropanol excluding allocations to acetone.
*** Total amyl alcohols.



President and guests of the Ohio Petroleum Marketers Assn. are shown here. (Left to right): Eric V. Weber, president OPMA; H. M. S. Burns, president Shell Oil Co.; S. A. Flint, district manager for Shell at Cleveland; and Karl M. Richards, manager field services of the Automobile Manufacturers Assn.

Added Marketing Facilities Needed To Meet Demand, Ohio Jobbers Told

Shell President Predicts Increased Imports Of Venezuelan Crude to Supply East Coast

By NPN Staff Writers

COLUMBUS, Ohio — "Oil marketing facilities must be increased and multiplied. Storage capacity that was sufficient to handle the volume of trade in 1940 is no longer sufficient. The same is true of transportation, delivery, and dispensing facilities," said H. M. S. Burns, Shell Oil Co. president, at concluding session of the three-day annual convention of Ohio Petroleum Marketers Assn. here March 30-31-April 1.

Independents also heard W. W. Vandeveer, Allied Oil Co. president, Cleveland, urge brevity and frankness in carrying oil's public relations story to the consumer.

Another highlight of talks by eight speakers from oil and allied industries was the plea by W. A. Matheson, executive vice president, Williams Oil-O-Matic Division, Eureka Williams Corp., that the oil industry take a more positive approach to demand problems and strive for more efficient use of products so that demand of consumers for fully automatic heat can be fulfilled.

Mr. Burns stated that the amount of steel available will determine how far oil industry can carry expansion plans both in production and in distribution. He told jobbers:

"The task is one for all of us. All of you here must play your part and share the load. The jobber is an oil man, he performs vital functions in the field of distribution and, in the same way as the Independent producer, he is an essential element in the development of the oil industry."

Mr. Burns predicted that increased imports of Venezuelan crude will be used in the future to supply needs of East Coast, and West Texas production will be required to bolster dropping California reserves which are not being supplemented, to any appreciable extent, by new discoveries.

The myth of cheap foreign oil flooding domestic markets and depressing prices has, Mr. Burns continued, been exploded, for foreign oil is not cheap to produce. Because of lower worker productivity, cost of foreign labor is higher than domestic, even though individual wages are lower, the Shell president pointed out. He told, too, of enormous foreign expenditures for housing and transportation facilities, citing the case of one company which found it necessary, as the first step in building a refinery, to build a town for the workers, complete with churches, schools, recreation facilities, and public utilities, at a cost of $50 million.

Sees 1951 World Use 10 Million B/D

Mr. Burns placed oil demand for the world (excluding Russia) by 1951 at 10 million b/d, as compared to 1947 consumption of about eight million b/d. The Middle East, he said, will produce enough to care for European demands now being supplied by Venezuela, and rejuvenated Far Eastern fields will take up any slack in the Eastern Hemisphere which the Middle East cannot supply.

Mr. Burns viewed confidently industry's ability to supply domestic demand in 1948, barring abnormal increase in consumption over 1947 when an 11% increase over 1946 was recorded. He placed U. S. demand now at close to 6 million b/d, 34% more than prewar demand and 19.5% greater than total military and civilian demand at peak of World War II.

The Shell president said that although his company is making larger profits than ever before, "we are not making any money. Month by month our cash balances go down." He attributed this seeming paradox to equipment replacement costs which now are double the book value of existing equipment.

The jobber audience was warned by Mr. Burns against being mislead by outpourings of "socialistic writers" who refer sneeringly to "integrated oil companies". He said that any company which does not confine itself to one specific function is integrated, that he knows of no oil company which is fully integrated, nor does he know of any oil company, however small, which is not partially integrated to some degree. The jobber, he said, is a "most important keystone of our operations, carrying out about one-third of our business."

A morning session of the Public Relations Committee of the OPMA Thursday saw Mr. Vandeveer elected, by unanimous vote from the floor, to the chairmanship of the Ohio Oil Industry Information Committee. The president of Allied accepted the position with the understanding that he would continue only so long as he had the support of eevry Ohio jobber and the co-operation of Eldean representative Alfred J. Hudson.

Mr. Hudson emphasized the farm-

3 New Directors Named

COLUMBUS, Ohio — Three new directors named by Ohio Petroleum Marketers Assn. are: Roy L. Burke, Summit Oil Co., Sidney; Leslie D. May, Circleville Oil Co, Circleville; and E. G. Vorwerk, Home Oil Co.; Napoleon. They were selected to round out the board of 12. D. G. Van Horn, Monroeville Oil Co., Monroeville, was re-elected director. Eric V. Weber, Cincinnati, was re-elected president of OPMA by the board and Sam Bohlen, Orrville, was re-elected vice president. Retiring directors are: W. S. Munson, Bristolville; John J. Klay, Lima; R. E. LeRoy, Franklin.

ers' need for gasoline, stating that average use of tractors had been boosted over last several years through addition of implements from 400 hours per year to over 1,000 hours per year. Today in the U. S., he said, there are over 3 million tractors to be kept operating.

Mr. Vandeveer, addressing the opening session of the OPMA, said that the industry still is not doing a good job of telling the consumer how much it has done, and that it will be the consumer who decides whether the industry is doing a good job or whether a government agency is needed to satisfy the consumer. At the public relations meeting, Mr. Vandeveer stressed again and again the virtue of brevity in advertising. He told of 15-minute radio shows sponsored by Allied last year, which headlined a noteworthy musician and were followed up with brief fuel oil conservation suggestions. Allied, he said, also sponsored musical presentations in public schools, relying on students to carry home conservation suggestions.

Mr. Vandeveer declared at the public relations meeting that needs of farmers will get special attention, but that committee will urge care to eliminate farm waste and will discourage unlimited farm consumption at the expense of other consumers.

Urges Program of Efficiency

Mr. Matheson, who also spoke at the opening session, stated that oil burner installations should not be discouraged, but that a program for getting more heat per gallon of fuel oil should be expanded. He quoted survey results in Champaign, Ill., that showed that 87% of homes were operating heating units below par, that less than 20% of homes were completely weatherstripped, that less than half of homes had storm sash, and that only slightly more than half were insulated. (See NPN Jan. 21, p. 17.)

Mr. Matheson summarized, "Let's engineer better . . . install better . . . insulate more . . . so that the oil heat user enjoys the inherent economy of his fuel to an extent unapproached and unapproachable by any other fully automatic heat."

In opening the convention, President Eric V. Weber, cautioned the jobbers to be more mindful of statistical forecasts in 1948 than they have been in the past, saying that too many took on new fuel oil customers last year despite shortage forecasts and that similar forecasts now are indicating that trouble of last winter will be repeated if more oil heat is installed by consumers. He predicted that Dist. 2 demand will be up 7.5% for all oil products over last year and placed the gasoline consumption figure in the district for 1948 at 866,000 b/d.

Secretary - Treasurer Robert A. Warfel, in listing the accomplishments of the OPMA last year, brought out the fact that the association actively opposed suggested increases in the federal minimum wage law and had supported proposals to change federal wage-hour regulations to provide overtime pay after 48 hours instead of 40 hours per week.

A six-step emergency tank truck program, to be used in the event peak demand on tank truck transportation develops in order to move maximum possible gallonage, was outlined by Frank Baird-Smith, assistant to the president, Refiners Transport-Terminal Corp. His outline called for:

1—Improvement of loading and unloading facilities through addition of large motors, pumps, and lines; 2—improving yards and driveways to permit easy handling of units with protection from unnecessary wear; 3—placement of orders 24 to 48 hours in advance; 4—assurance that no tank trucks are sent after products not available; 5—assurance that tank trucks are permitted to carry maximum loads possible, and 6—permission for tank trucks to load and unload six days weekly, and if necessary, seven. Mr. Baird-Smith also stressed the need for a sound program of preventive maintenance to prevent major overhauls and breakdowns and to obviate need for frequent purchase of new equipment.

Karl Richards, manager of the field services department of the Automobile Manufacturers' Assn., informed jobbers of the need for expenditure in the next 20 years of about $80 to $100 billion for highway improvements, and reminded jobbers of their responsibility to insure that tax funds are not misused by special interest groups but are utilized for highway development under long-range blueprints for benefits of all. Mr. Richards said that last year 37 million vehicles on the road operated at record total of 370 billion vehicle-miles.

The Ohio State Department of Highways was represented by Earl L. Reeb, director, who informed jobbers of a policy adopted by the state to permit bids for small quantities of oil products, as low as 5,000 gals. He said that Ohio will spend about $50 million in 1948 on its road program and set product needs at 6 million gals. gasoline, 125,000 gals. fuel oil, and 400,000 gals. kerosine.

Lyle W. Munson, sales manager, Calumet Refining Co., spoke on "Independence—Our Mutual Problem".

Texas Refinery Leased

GRAHAM, Tex.—Gratex Refining Co.'s 500 b/d plant here has been leased for three years effective April 1, to Malco Refineries, Inc., Roswell, N. M., which has also taken an option to buy the refinery during that time, according to E. R. Marchman, Gratex general manager. Gratex will continue to operate as a crude purchasing company, and will maintain its bulk plants and stations which will be supplied by Malco under crude exchange agreement. Gratex Refining is owned by partnership of Marchman and G. O. Cozart estate.

Pogue Sees '48 Oil Earnings Again Shy of Capital Needs

ATLANTIC CITY—Again in 1948 a group of 30 oil companies will fall short of earning enough to pay for their capital investments in expanded facilities, declared Joseph E. Pogue, vice president, Chase National Bank, in an address here April 5 before the Controllers Institute of America. The 30 companies are the same on which an annual study has been made for the past 13 years by Mr. Pogue and his Chase National associate, Frederick G. Coqueron.

Outside capital of $100 million will be needed this year to supplement cash income available from earnings, Mr. Pogue said. Funds available from earnings were also insufficient to meet new capital investments in 1947 and 1946 by the amounts shown in the following table. For comparison, there is included a figure showing the extent by which, in 1934-1945, the 30 companies did earn their new capital needs:

1948 (estimate)	—100 million
1947 (estimate)	—300 million
1946 (actual)	—178 million
1934-45 average	+ 39 million

"High income taxes and restrictive federal regulations in the securities markets have seriously affected the ability of oil companies to raise capital through sale of preferred and common stocks," Mr. Pogue said. Capital requirements of the oil industry have a bearing on oil prices, he continued, because in periods of expansion it is necessary to increase both the volume of capital retained from earnings and the amount of outside capital sought from the markets.

In the postwar period of rapidly expanding oil demand, he said that "not only have oil prices advanced but the capital markets have been drawn upon in greater degree, a necessary combination in enabling supply to overtake demand."

Venezuelan Refinery Started

NEW YORK—Venezuelan Petroleum Co., affiliate of Sinclair Oil Corp., confirmed last week that preliminary work is under way on 35,000 b/d refinery to be built near Puerto La Cruz, Venezuela. Last week Dr. Jose Martorano, of Venezuelan Ministry of Development, stated here that Sinclair was obligated to build refinery.

Work so far has been limited to surveying of site and preparation of engineering plans, but new plant is scheduled to be completed in 1951.

26-State Survey Shows Public Concern About Shortage of Home Heating Oil

The results of a survey of public attitudes toward the oil industry on shortages, prices and profits, made by Opinion Research Corp. for the Oil Industry Information Committee, were presented to the committee at its meeting in Los Angeles last month. (See NPN March 31, p. 11 and p. 16) The text of the findings is reproduced herewith.

The survey covered 2,021 personal interviews, made between Feb. 17 and 28, with a representative cross-section of the population in 26 states and the District of Columbia. The areas included were those most seriously affected by the fuel oil shortage.

Following are the states in which interviews were conducted:

New England—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic—New York, New Jersey, Pennsylvania, Maryland, Delaware, West Virginia, District of Columbia.

Midwest Industry—Ohio, Michigan, Indiana, Illinois.

Midwest Agricultural—Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska.

Others—Virginia, Kentucky, Tennessee.

The group called "fuel oil users" includes those whose dwellings are heated with oil burners, space heaters, oil stoves, whether in individual homes or in apartments.

Opinion Research, one of the nation's outstanding survey organizations, made a survey for the American Petroleum Institute in 1946, just prior to the formal launching of the industry public relations program. The method of Opinion Research is to obtain samples that have the same proportions as the total population of rich and poor, young and old, big-city dwellers and farmers, etc.

1. The current fuel oil shortage has made an impression on virtually the entire public in the area surveyed.

When shown a list of several scarce items, more than nine out of every ten people (93%) say they have recently heard of a shortage of fuel oil somewhere in the country. The only other shortage of which there is as high a degree of awareness is the housing shortage.

Although the public is somewhat less aware of shortages locally than of shortages elsewhere, four out of every five (80%) report having heard of a scarcity of fuel oil in their own area.

"Have you heard anything in the last month or two about a shortage of _____ anywhere in the United States? In this area?"

Have heard about a shortage of—	Anywhere in the United States	In This Area
Housing	95%	89%
FUEL OIL	93%	80%
Automobiles	67%	60%
Gas for heating	58%	40%
Gasoline	56%	34%
Meat	28%	15%
Radios	7%	4%

Awareness of local fuel oil shortages is greater among fuel oil users than among non-users, and greater among larger city dwellers than among residents of smaller cities and rural areas.

Residents of the Middle Atlantic region show slightly less awareness of the shortage than do people living in other regions.

	Have Heard of a Fuel Oil Shortage "in This Area"
Fuel oil users	90%
Non-users	75%
Cities over 100,000	87%
Cities 2,500—100,000	79%
Rural areas	72%
New England	85%
Midwest Agricultural	85%
Va., Ky., Tenn.	85%
Midwest Industrial	79%
Middle Atlantic	75%

2. The scarcity of fuel oil now affects more people than does the shortage of any other item.

People spontaneously mention fuel oil more frequently than anything else as a shortage that they have found particularly troublesome recently. More than a third of those with oil burners name the fuel oil shortage as the one that has bothered them most.

"What are some of the shortages that have recently bothered you most?"

	General Public (Including Fuel Oil Users)	Fuel Oil Users
FUEL OIL	14%	35%
Food or meat	11%	10%
Housing	8%	8%
Automobiles	8%	9%
Clothing	6%	6%
Money	6%	6%
Paper products	5%	4%
Coal	4%	2%
Gasoline	3%	2%
Only the prices	3%	1%
Other items	24%	21%
Nothing	30%	26%
Don't Know	4%	3%

(Percentages here and in some later tables add to more than 100 because of multiple answers.)

When questioned directly regarding the effects on them personally of various shortages, even more people report that the fuel oil shortage is serious for them. Almost half (46%) of fuel oil users say they are seriously affected by the shortage.

"Are any of these shortages serious right now so far as you personally are concerned? Which ones?"

	General Public (Including Fuel Oil Users)	Fuel Oil Users
FUEL OIL	21%	46%
Housing	17%	18%
Automobiles	9%	9%
Gasoline	4%	4%
Meat	3%	3%
Gas for heating	3%	1%
Radios	*	*
None of these	58%	44%

* Less than ½%.

A majority of fuel oil users describe the effect of the shortage on them as an inconvenience. Few report that it has involved real hardship. And a third say that the shortage has made no difference to them personally.

Like most of the other questions which follow, this was asked only of the 93% who recall having heard about a shortage of fuel oil anywhere in the United States. For convenience, this group, throughout the report, is labeled "Total" to distinguish it from the entire general public.

"Which of these statements comes closest to describing how the fuel oil shortage has affected you personally?"

	Total	Fuel Oil Users	Non-Users
Made no difference	63%	32%	79%
A little inconvenient	13%	22%	8%
Inconvenient, but no hardship	15%	31%	7%
Real hardship	6%	14%	2%
No opinion	3%	1%	4%

More people in the Virginia-Kentucky-Tennessee region than elsewhere feel they have been seriously affected by the fuel oil shortage.

30% of those in this area say the fuel oil shortage "is serious right now" as far as they personally are concerned (21% in the 26 states as a whole).

16% feel the shortage has constituted a real hardship for them (6% in the entire survey area).

3. Very few people spontaneously place the blame for the fuel oil shortage on the oil companies.

But, when asked directly whether the companies are in any way responsible for the shortage, a substantial minority of the public say they are.

Oil exports, increased demand, and lack of transportation facilities all

come up more often in spontaneous appraisals of the causes of the shortage.

"Who or what do you think is causing the fuel oil shortage?"

Exports to other countries	26%
Increased use of oil	23%
Demand exceeds supply	3%
Lack of transportation facilities	18%
The oil companies	9%
Government, politicians, the President, etc.	5%
Lack of producing and refining equipment	2%
Supply held back (oil companies not mentioned)	1%
Crude supply running out	1%
Dealers	*
Other mentions	13%
No opinion	22%

* Less than ½%.

But when questioned directly about the responsibility of the oil companies, a substantial minority place at least part of the blame for the shortage on the companies. In addition to the 9% who spontaneously blame the oil companies on the preceding question, another 24% answer the following question in the affirmative:

"Do you think the oil companies are in any way to blame for the fuel oil shortage?"

Yes, companies are to blame	24%
Companies already mentioned on preceding question	9%
No, they are not to blame	38%
No opinion	29%

Fuel oil users are somewhat more inclined than non-users to hold the oil companies responsible for the shortage. Likewise, people in the Midwest Agricultural region are slightly more critical than residents of other areas.

(Read percentages across)	Say Companies to Blame	Say Companies Are Not to Blame	No Opinion
Fuel oil users	41%	36%	23%
Non-users	30%	39%	31%
Midwest Agricultural	41%	38%	21%
Middle Atlantic	35%	37%	28%
Midwest Industrial	32%	35%	33%
New England	32%	46%	22%
Va., Ky., Tenn.	24%	39%	37%

The most common reason for holding the oil companies responsible for the shortage is a feeling that they are trying to increase prices.

"How are they to blame?"

Total saying companies are to blame	33%
Trying to raise the price	11%
Exporting it	6%
Poor planning	4%
Exporting for higher price	2%
Holding it back (price not mentioned)	1%
Should have more transportation facilities	1%
Competition (large companies squeezing out small companies)	1%
Encourage sale of oil burners	1%
They control the supply	1%
Don't distribute fuel oil equitably	1%
Making gasoline instead of fuel oil	1%
Other reasons	6%
No opinion	1%

One person in every two (52%) thinks that the oil companies have really tried to prevent the fuel oil shortage. Only one fifth of the public think the companies haven't tried hard enough to prevent a shortage. In New England, the companies are given particular credit for having done their best to prevent a shortage.

"Some people say that the oil companies have really tried hard to supply enough fuel oil. Others say they haven't tried at all. Do you think the oil companies have tried as hard as they should to supply enough fuel oil, or not?"

	Total	New England
Have tried	52%	66%
Have not tried	20%	17%
Qualified answers	8%	5%
No opinion	20%	12%

Those who believe the companies have made a real effort to supply enough fuel oil cite as their principal reasons:

"It's to the oil companies' own interest to do so."

"I know of instances where they have done their best to meet the demand."

"The shortage is due to factors over which the companies have no control."

Those who say the companies haven't tried as hard as they should give as their main reason the belief that the oil companies are trying to benefit from the shortage.

4. When shown a list of possible factors, the ones which the public is most inclined to consider important as causes of the fuel oil shortage are:

INCREASED USE OF FUEL OIL
EXPORTING OF OIL
AN UNUSUALLY SEVERE WINTER
LACK OF ADEQUATE TRANSPORTATION FACILITIES

Exhaustion of oil fields, lack of equipment for producing and refining oil, strikes in the oil industry, and the possibility that people are keeping their homes warmer than they did during the war do not impress the public as being significant causes of the shortage. Fuel oil users do not differ significantly from the total public in their appraisals of the factors responsible for the fuel oil shortage.

"Which of these do you think are really important and which are not important as a cause of the fuel oil shortage?"

Really important:	Total	Fuel Oil Users
More people are using oil to heat their homes	78%	79%
Shipping oil to other countries	73%	76%
Unusually cold winter	65%	68%
Not enough tankers and tank cars to move the oil	62%	62%
Lack of equipment needed in oil fields and refineries	36%	33%
People are keeping their homes warmer than they did during the war	30%	29%
Strikes in the oil industry	23%	22%
The oil fields are running out of oil	20%	16%

5. Not only are people aware of the increased demand for fuel oil, but they also recognize that the volume of fuel oil deliveries is greater this year than it was last year. Non-users are almost as well aware of this fact as are fuel oil users.

"Would you say that the oil companies this year are supplying more fuel oil or less fuel oil altogether than they did last year?"

	Total	Fuel Oil Users	Non-Users
More	62%	65%	60%
Same amount	10%	11%	10%
Less	11%	13%	10%
No opinion	17%	11%	20%

6. The public offers a variety of suggestions for alleviating the fuel oil shortage.

Reduction of exports is the solution suggested most often. Very few spontaneously advocate rationing or government intervention. Fuel oil users do not differ from others in the frequency or types of suggestions made.

"What do you think might be done to help out the fuel oil shortage?"

	Total	Fuel Oil Users
Limit exports	25%	26%
Improve transportation	13%	13%
Voluntary reduction in use	12%	13%
Push production	9%	8%
Use substitutes	6%	6%
Ration fuel oil	4%	4%
Government intervention	4%	6%
More even distribution	3%	3%
Less politics in the picture	1%	1%
Restrict amusement places	1%	2%
Release military stocks	*	1%
Other suggestions	15%	17%
No opinion	24%	19%

* Less than ½%.

Most fuel oil users take credit for having made a personal effort to help out in the shortage. 78% say they have done something to help.

"Have you done anything, or tried to do anything, to help out on the shortage of fuel oil? What was it?"

	Fuel Oil Users
Reduced temperature	53%
Used less oil	12%
Shut off rooms	10%
Improved insulation	7%
Used substitutes	6%
Wore more clothes	1%
Other mentions	3%
Nothing or don't know	22%

7. Although a majority of the public have heard of the possibility of a gasoline shortage next summer, only a minority are convinced that such a scarcity will occur. However, in the event a gasoline shortage does materialize, the public would favor rationing as a control measure.

Two-thirds of the public say they have heard of a possible gasoline shortage next summer. Midwesterners and car owners show higher than average awareness of the possibility of such a shortage.

	Have Heard of Possible Gasoline Shortage
General public	65%
Car in family	72%
No car in family	44%
Midwest Agricultural	72%
Midwest Industrial	71%
Middle Atlantic	63%
New England	56%
Va., Ky., Tenn.	55%

Only three in every ten believe that a gasoline shortage will actually de-

velop. Another third are uncertain whether there will be a shortage or not.

"Do you think there probably will be a shortage of gasoline next summer, or not?"

	General Public	Have Car in Family
Yes, will be a shortage	30%	34%
No, will not	35%	35%
No opinion	35%	31%

When confronted with the two alternative explanations, people divide about evenly on whether a shortage would be caused primarily by an increased amount of driving or by a decreased amount of available gasoline.

Of the 30% who expect a gasoline shortage next summer—

- 14% say that will be because people will be driving more than they did last summer
- 16% think it will be because there will be less gasoline than there was last summer
- 3% give qualified answers
- 1% express no opinion

(Percentages add to more than 30 because of multiple answers.)

In response to a direct question, a majority of the public say gasoline should be rationed if a shortage materializes. Young people and residents of the Virginia-Kentucky-Tennessee region are particularly inclined to favor rationing.

"If there actually is a shortage of gasoline next summer, do you think gasoline should be rationed, or not?"

	General Public	21-29 Years	Va., Ky., Tenn.
Yes, should be rationed	55%	62%	62%
No, should not	33%	27%	25%
Qualified answers	5%	4%	4%
No opinion	7%	7%	9%

The principal reason given by those who favor rationing is that it would insure a fair and equitable distribution of the available supply.

Opposition to rationing stems largely from the feeling that it would result in black market operations, and from an objection to the principle of rationing.

8. The public is now considerably more critical of oil industry prices than it was two years ago when the first national survey was made for the American Petroleum Institute.

More than one third of the public (36%) now feel that the price of gasoline is high in relation to other prices. In 1946, only 12% of the national public said this. (The 1946 figure for the areas included in the current survey was approximately the same as the national percentage.) Half the public still say that gasoline prices are about right or low in comparison with the prices of other things (79% in 1946).

"Would you say that the present price of gasoline is high, about right, or low in comparison with the prices of other things you buy?"

	26-State Public 1948	National Public 1946
High	36%	12%
About right	47%	66%
Low	3%	13%
No opinion	14%	9%

Farmers this year are particularly inclined to feel that gasoline prices are high. Car owners are somewhat more critical of gasoline prices than non-owners, although these two groups differ largely in the size of the no opinion vote. Residents of the Middle Atlantic area voice less criticism than do people in the other four regions.

(Read percentages across)	Say Price of Gasoline Is: High	About Right	Low	No Opinion
Farmers	48%	42%	1%	9%
New England	42%	40%	3%	15%
Middle Atlantic	28%	51%	3%	18%
Midwest Industrial	42%	46%	3%	9%
Midwest Agricultural	43%	43%	2%	12%
Va., Ky., Tenn.	40%	42%	2%	16%
Car in family	41%	51%	3%	5%
No car in family	23%	35%	2%	40%

A substantial majority of people with oil burners feel that fuel oil prices are out of line. (This question was not asked in 1946.) "Would you say that the present price of fuel oil is high, about right, or low in comparison with the prices of other things you buy?"

	Fuel Oil Users
High	61%
About right	30%
Low	*
No opinion	9%

* Less than ½%.

9. The public is likewise more critical of oil industry profits than it was in 1946.

A third (43%) now say that the oil industry makes too much profit, compared with 21% of the national public in 1946. Only 42% now regard oil profits as reasonable (54% in 1946).

"On the whole, do you think that the oil industry makes too much profit, a fair profit, or too little profit?"

	26-State Public 1948	National Public 1946
Too much	32%	21%
Fair profit	42%	54%
Too little	1%	2%
No opinion	25%	23%

People in New England are somewhat more critical than the public in other regions. As in 1946, lower income people are more inclined to take an unfavorable view of oil profits than are upper and middle income respondents.

	Say the Oil Industry Is Making Too Much Profit
New England	42%
Middle Atlantic	29%
Midwest Industrial	34%
Midwest Agricultural	34%
Va., Ky., Tenn.	28%
Upper income	31%
Middle income	30%
Lower income	36%

Naval Reserve Volunteer Unit To Be Organized by Oil Men

NPN News Bureau

CHICAGO—More than 200 invitations to an organizational meeting of U. S. Naval Reserve Volunteer Petroleum Division, April 15, have been mailed to oil men who served with the Navy and Marine Corps during the war, Cmdr. George H. Schulz, American Mineral Spirits Co., said here last week.

Cmdr. Schulz, who will preside at the meeting, said Capt. Ralph Wilson, USN, deputy executive officer of Army-Navy Petroleum Board under joint chiefs of staff, Capt. J. H. Forshew, USN, Washington, and Commodore J. E. Arnold, USNR, assistant commandant of 9th Naval District will explain the reserve program at the dinner meeting to be held at the U. S. Naval Armory.

Oil men participating in organizing the reserve group include: Capt. J. M. Ross, USNR, Cities Service Oil Co.; Cmdr. P. N. Gammelgard, USNR, Pure Oil Co.; Lt. Cmdr. A. N. Brodt, USNR, and Lt. M. A. Dixon, USNR, Standard Oil Co. (Indiana); Lt. Cmdr. R. J. Warg, USNR, The Texas Co.; Lt. Cmdr. C. H. Markley, USNR, Phillips Petroleum Co.; Lt. H. H. Bresnahan, USNR, Shell Oil Co.; Lt. C. K. Haddon, USNR, Socony-Vacuum Oil Co.; Lt. D. K. McIntosh, USNR, Sinclair Oil Co.

Holton Named New Socony Chairman Succeeding Sheets

NPN News Bureau

NEW YORK—George V. Holton, vice president and general counsel, Socony-Vacuum Oil, has been elected chairman of the board, succeeding Harold F. Sheets, who has retired after 41 years' service. Mr. Holton has been a vice president of Socony since 1938.

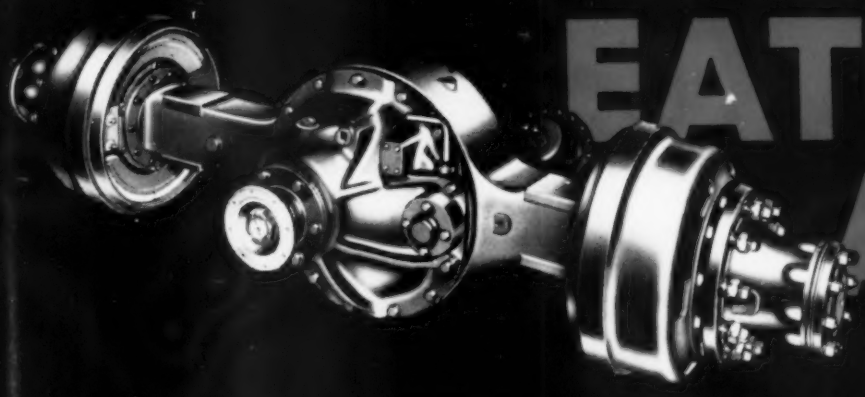
Mr. Sheets began his career with Vacuum Oil Co.'s subsidiary in Germany as assistant to the managing director. He later became president of Vacuum's affiliated companies in France, Spain, Belgium and Italy with headquarters in Paris. After his return to New York, he was elected director of Socony-Vacuum in 1930 and chairman of the board in 1944.

'Gas' Tax Up in Kentucky

LOUISVILLE—Kentucky last week joined the ranks of the high-gas-tax states with the 2c increase to 7c per gal., effective April 1, passed by the Legislature in February. Total tax to Kentuckians, including 1.5c federal, now is 8.5c per gal. Only three other states—Florida, Louisiana, and Tennessee—have state levies as high as 7c.

Eaton Forced-Flow Oiling System Starts Lubrication the Instant Gears Turn Over

The instant the gears in the Eaton 2-Speed Truck Axle turn over—even a single revolution—oil is started on its way to all moving parts. Planetary gears operate in a bath of oil. There is no operation without lubrication. The flow of lubricant is governed to meet the demands of various operating speeds. This assurance of abundant lubrication at slow speeds as well as high, reduces friction and wear on moving parts, and adds materially to axle life and freedom from repairs. Outstanding performance records are proof of Eaton quality and design. See your truck dealer for complete information.



EATON *2-Speed Truck* AXLES

ALMOST A MILLION EATON 2-SPEED AXLES IN TRUCKS TODAY

EATON MANUFACTURING COMPANY

Axle Division

CLEVELAND, OHIO

Uncanny Facts

Canned food still good after 92 years!

Canned food left by an English explorer in 1852 was discovered in the arctic in 1944. The cans had resisted repeated heavy freezes and thaws; their contents were still wholesome!

Free insurance for every employee!

Continental provides employees with liberal life insurance, benefits for surgical operations, and weekly sickness and accident benefits!

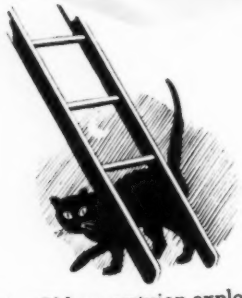
What do people eat in the arctic?

In the desert? In other far-off spots. Surprisingly enough, they eat well-balanced foods – thanks to the convenience and safety of cans. Standards of eating have been immeasurably raised by the miracle of canned foods – and we are proud of the part we play in this great industry.

Continental also makes plastics, fibre drums, paper cups and containers, and bottle caps. More reasons why we say "the bigger the family ... the better the service."

Lunch is served – on the job!

Mono cups were used for first all-paper in-plant feeding 20 years ago. Today, 9 million workers eat on the job. (Mono cups are made by Continental.)



Old superstition exploded!

The United States Department of Agriculture says it's perfectly safe to leave food in an opened can. (Just keep the can cool and covered.)

The bigger the family ...

CONTINENTAL CAN COMPANY

the better the service

We hope this ad, now running in national magazines, will give you a broader and better picture of Continental. In *your* field, Continental's really in the picture with just about every size and type of container you could possibly want.

For example: "Tripletite" friction-plug containers, square or oblong "F-style" cans, and, for bulk, "Five-gallon square" containers.

Barge and Towboat Construction Spurt Means More Oil Will Move on Rivers

The John I. Hay Co.'s "George F. Horton" is shown here pushing eight oil barges

Survey by NPN Shows Huge Increase in Activity by Shipbuilders Though Steel Is Handicap to Some

By EARL LAMM
NPN Staff Writer

Transportation of petroleum products on the improved rivers and canals of the United States again is on the increase following an early postwar slump.

The number of new oil barges and towboats completed last year and so far this year point to a substantial increase in the petroleum tonnage to be handled during this and future years.

Reports to NATIONAL PETROLEUM NEWS from 12 leading shipbuilders engaged in oil barge and towboat construction show that they have either built in 1947 and so far this year—or have orders to build—134 oil barges having a total estimated capacity of 1,632,340 bbls. In 1946, the same companies reported having built only six oil barges.

Towboats completed, under construction or on order since Jan. 1, 1947, total 26. Only five were built for the oil trade during 1946 by these companies.

Steel Causes Some Delay

Lack of steel more than anything else is delaying construction of both barges and towboats according to the shipbuilders. The National Petroleum Council steel committee suggested an allocation of 3,191,000 tons of steel for barges or at the rate of 2,127,000 tons annually for the period of April 1, 1948, to Sept. 30, 1949; but this allocation has not been definitely authorized at Washington as the allocation request was incorporated with estimated requirements for other branches of the oil industry. Public hearings on these voluntary allocations are due to be held shortly.

One shipbuilder said that the old, established barge and towboat builders are having some success in obtaining steel right along as they have long records of constant purchases from the mills and are receiving regular allocations on that basis. Shipbuilders who entered the business during the war, and those who turned away from it to other work in the war emergency, are the ones now having the greatest difficulties in obtaining steel for barges, it was stated.

J. M. Morris, sales manager for Jeffersonville Bolt and Machine Co., Jeffersonville, Ind., said that his company, a subsidiary of American Barge Lines, has cancelled all tentative orders for barges because of lack of steel. Two other companies also recently reported difficulty in obtaining steel.

Need More Barge Capacity

In looking into the over-all operation of petroleum barges, the barge section of the District 2 NPN industry advisory committee, under Vice Chairman Brown L. Meece of Globe Oil & Refining Co. at Chicago, reported at the last Dist. 2 meeting March 1:

"It was definitely the consensus of opinion of the Barge Committee that additional barge capacity must be secured in order to move all available products along the lower and upper Mississippi, Illinois and Ohio rivers and tributaries."

The committee said that the Coast Guard inspection list of July 1, 1946, showed a total of 1,353 tank barges with capacity of 9,920,000 bbls. in operation on the Mississippi and Intracoastal canal on that date.

10% Increase Since July, 1946

A canvass made of the various shipyards covering net additions since July 1, 1946, the committee continued, indicates a total net addition after allowing for retirements, exceeding 1,000,000 bbls or approximately a 10% increase, making the current total capacity about 11,000,000 bbls. A more complete canvass of shipyards and shipping companies is now being made by the committee.

Shipbuilders who recently supplied

New Towboats Reported by Shipbuilders as Completed, Under Construction or On Order Since Jan. 1, 1947

Number Towboats	Powered by—H.P. Engine	Builder	Owner	Will Operate on
7	2000	Dravo Corp	3—Union Barge Lines	Inland rivers
			2—Esso Standard	Inland rivers
			2—Miss. Valley Barge Lines	Inland rivers
1	2500	Dravo Corp.	1—Miss. Valley Barge Lines	Inland rivers
2	1000	Dravo Corp.	1—Argentine Government	Parana river
2	1000	Dravo Corp.	1—Dravo Corp.	Inland rivers
			John I. Hay Co.	Inland rivers
2	3000	St. Louis S. B. & Steel Co.		
6	1700	St. Louis S. B. & Steel Co.	4—Butcher-Arthur Co.	Inland rivers
1	2000	F. B. Walker & Sons.	4—Berwick Bay Towing Co.	Miss. & Ohio rivers
1	3000	F. B. Walker & Sons.	1—Simpson Oil Co.	Miss. & Ohio rivers
2	3000	Jeffersonville Boat & Machine Co.	*	*
4	*	Nashville Bridge Co.	*	*
28 towboats				

* Information not available.

NPN with the construction information shown in the tables at the end of this article indicated that construction of both towboats and barges are following conventional engineering principles generally, but that new ideas are being incorporated from time to time after tests prove their worth.

Provide Modern Facilities

Chester C. Thompson, president of American Waterways Operators, Inc., the national association of river carriers, recently declared that transportation on the improved rivers and canals now is just as modern as it is in other fields, such as air transport, the streamlined train or the modern automobile.

"Towboats, or pusher boats," he said, "are coming off the marine ways as rakishly streamlined as any other modern form of transport, and not only are these 'power' boats attractive in appearance, they also have the 'umph' to shove along at consistently good speeds, tows of 12 to 18 barges with a total tonnage equal to three or four full trainloads!

"This has been made possible by several developments," he continued, "chief of which is the use of Diesel engine units on the rivers, plus the Kort nozzle. The latter is to the modern towboat almost what jet propulsion is to the modern military airplane. This 'nozzle' feeds a constant flow of unbroken water to the propellors, increasing push power per horsepower and improving maneuverability to the point where it's easy as parking a car on a street.

Radio Telephones Used

"Ship-to-shore and ship-to-ship radio telephones are widely used on the towboats. Even radar guides the boats and their long barge trains through the fog, storm and smoke.

"Improvements in hull design, twin and triple screw propulsion and the use of the Kort nozzle have increased the use of river tows and electric welding permits stronger, lighter hulls of greater capacity than before.

"The most powerful towboats currently operated on the 26,000 miles of navigable waterways is a triple screw vessel 140 ft. long with a beam of 38 ft. and a total horsepower of 3,330. But there are many others nearly as powerful.

"Standardization and specialization are part of river barge construction technology. . . . The modern petroleum barge has a capacity ranging from 9,000 to 22,000 bbls. The typical railroad tank car has a capacity of about 200 bbls.

"These technological advancements," Mr. Thompson concluded, "have resulted in reduced operating costs and increased efficiency and continued low rates for transporting freight on the rivers."

Underwater Streamlining

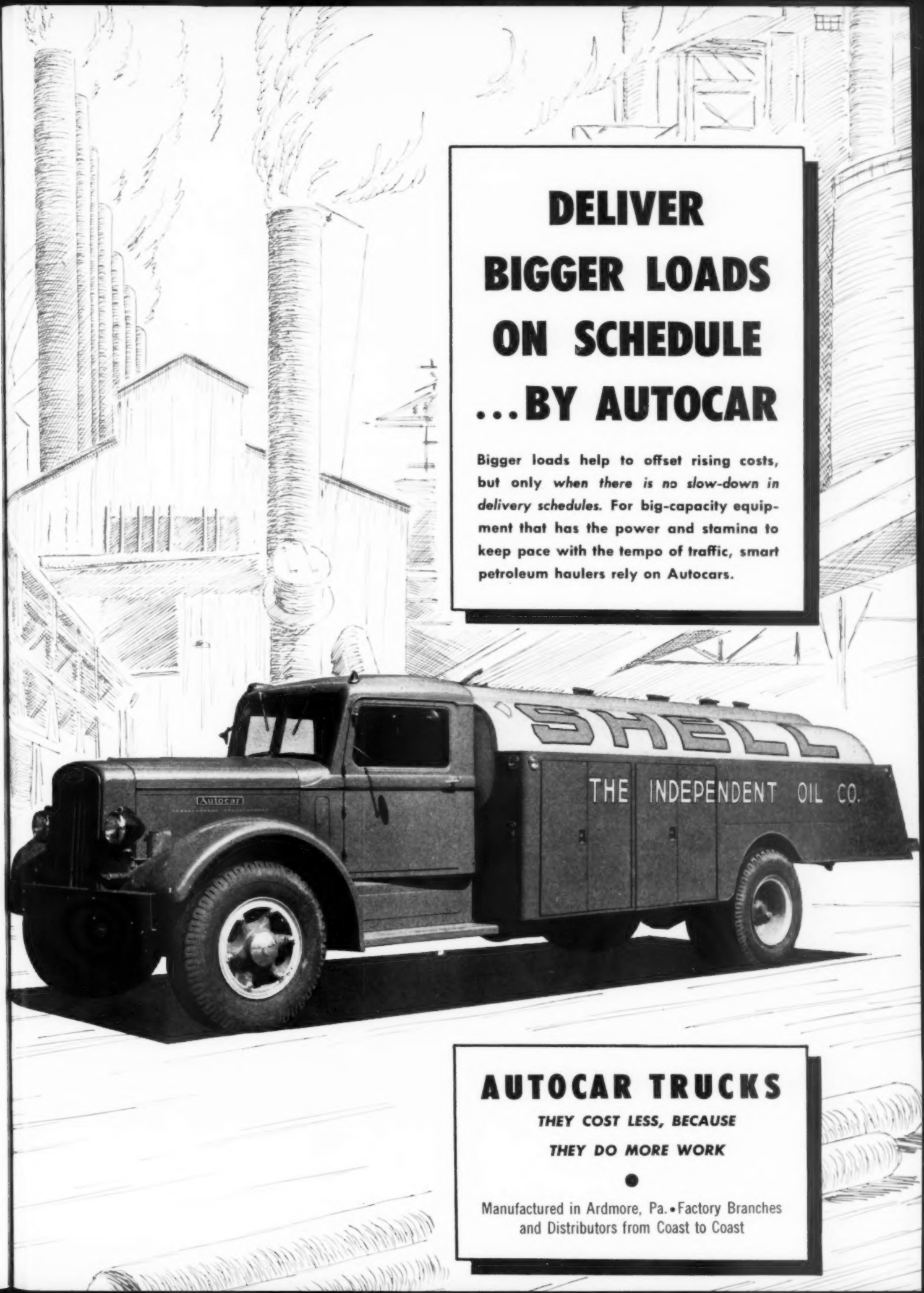
In discussing improvements that barge operators have made in their equipment during the past few years, a large Midwest operator also pointed to the streamlined or "articulated" express units of 50,000 bbls. capacity, pushed by 2,000 h.p. boats. The units are not only streamlined in appearance above water, but are streamlined under water to minimize speed resistance, he said.

"These units now are being used principally on 1,000-mile hauls," he continued. "Too many river locks on short hauls work against them. However, they are particularly attractive in transportation of oil for they are designed to travel at six to eight miles per hour up stream as con-

New Oil Barges Reported by 12 Leading Shipbuilders as Completed, Under Construction or On Order Since Jan. 1, 1947

Number Barges	Estimated Barrels Capacity, each	Builder	Owner	Will operate on
12	11,000	American Bridge Co.	*	Inland rivers
14	6,500	Avondale Marine Ways	2—Union Producing Co.	Inland rivers
			1—Union of California	Inland rivers
			5—Creole Petroleum Corp.	Inland rivers
			5—Humble Oil & Ref. Co.	Inland rivers
			1—Ayres	Inland rivers
1	19,000	Bethlehem Steel	1—Morania Oil Co.	
35	9,400	Dravo Corp.	2—Acme Petroleum Co.	Inland rivers
			6—Esso Standard	Inland rivers
			24—Union Barge Lines	Inland rivers
			1—Pittsburgh Plate Glass	Inland rivers
			2—Carbide & Carbon Chemical	Inland rivers
1	9,800	Dravo Corp.	1—Penn Stevedoring Co.	Cape Cod Canal
4	16,000	Dravo Corp.	4—John I. Hay Co.	Inland rivers
2	19,000	Dravo Corp.	2—Mechling Barge Lines	Inland rivers
1	540	Equitable Equipment Co.	1—Esso Standard	Inland rivers
1	18,000	Gulf port SB & DD Co.	1—Gulf Oil Corp.	Intracoastal
1	20,000	Ingalls Shipbuilding Corp.	Ulster Oil Transport	*
4	9,000	John H. Mathis Co.	Atlantic Refining Co.	*
10	9,000 to 24,000	Nashville Bridge Co.	*	*
4	18,000	NTC Shipbuilding Co.	Socony-Vacuum	*
8	16,000	St. Louis Shipbuilding & Steel Co.	Upper Miss. Barge Lines	Miss. and tributaries
16	20,000	St. Louis Shipbuilding & Steel Co.	Butcher-Arthur	Inland and coastal waters
6	10,000	St. Louis Shipbuilding & Steel Co.	Simpson Oil Co.	Inland waters
2	12,000	St. Louis Shipbuilding & Steel Co.	Streett Towing Co.	Inland waters
8	7,000	St. Louis Shipbuilding & Steel Co.	Patton Tully Towing Co.	Inland waters
4	10,000	F. B. Walker & Sons	*	Inland waters
134	1,632,340			

* Information not available.



DELIVER BIGGER LOADS ON SCHEDULE ...BY AUTOCAR

Bigger loads help to offset rising costs, but only *when there is no slow-down in delivery schedules.* For big-capacity equipment that has the power and stamina to keep pace with the tempo of traffic, smart petroleum haulers rely on Autocars.

AUTOCAR TRUCKS

THEY COST LESS, BECAUSE

THEY DO MORE WORK

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Butcher-Author's new towboat "Meriwether Lewis" was christened on March 13, 1948, and placed in service on March 18. She is one of six "sisters"

trasted with normal rate of three miles per hour for ordinary barges.

"But they carry less tonnage than the other units," he added, "and their successful operation depends upon quick loading and unloading to save time and hurry completion of turn around trips to keep their total volume haul up.

Lighter and Faster Diesels

More power towboats of standard design also are being put into operation, the barge operator said. Heretofore, marine Diesels have been very heavy and slow, but shipbuilders now are going to lighter, high speed Diesels with reduction gears. Hydraulic couplings also are being tried out on one of the operator's new towboats, he said. The lighter, faster Diesels are less expensive to maintain for replacement parts cost less and they have a higher fuel efficiency, it was pointed out.

Two of the most recently launched towboats were the "Fort Dearborn" owned by John I. Hay Co. of Chicago, and the "Meriwether Lewis", owned by Butcher-Arthur, Inc., Houston. Both boats were built by St. Louis Shipbuilding & Steel Co.

The "Fort Dearborn" is a twin screw towboat, with all-welded steel hull. It is 156 ft. long with a 35 ft. beam and a depth of 10 ft. It is equipped with Kort nozzles surrounding 88-inch diameter variable pitch propellers, operating at 260 R.P.M. Normal draft of the boat is seven feet, with a seven foot, six inch draft when fully loaded with 310 tons of fuel oil—sufficient for 21 days running under full load.

The "Meriwether Lewis" is a single screw towboat, which was christened on March 13 at St. Louis by Mrs. M. C. Butcher and Mrs. J. N. Rayzor of Houston. It is the first of six duplicate towboats being built for Butcher-Arthur, which company also has ordered 16 new 20,000 bbl. capacity integrated barges. The "Meriwether Lewis" tow will consist of two of the new barges, which with the other new equipment, will help alleviate the acute shortage of petroleum products in the Middle West by increasing river transportation up the Mississippi.

Designed for Speed

Hull of the new towboat is 105 ft. long, 28 ft. beam and 10 ft. depth, with draft of seven feet. It has a model scow bow and long stern, especially designed for high towing speed, said the builders, the St. Louis Shipbuilding & Steel Co. Hull construction is all-welded and unusually rugged, they add, with a minimum of ⅜ inch plating used, including bulk heads. The hull is divided into 12 water-tight compartments and has a fuel capacity of 136 tons.

Equipment includes a ship-to-shore radio and a radar unit. "Everything possible has been done on the 'Meriwether Lewis' to make it as reliable as possible," the builder said, "because when this boat enters into service it is essential that it maintains a high-speed schedule with minimum of lost-time delays."

The other five similar towboats that are to follow the "Meriwether Lewis" off the ways at six-week intervals are the "William Clark", "Stephen Foster", "Samuel Clemens", "Davy Crocket", and the "Sam Houston."

Data on Cost and Size of Barges, Towboats

There is a wide range in the cost of towboats and barges, but a conventional tow of six 10,000 bbl. barges runs about $770,000. The barges cost about $45,000 each and the towboat with 2,000 h.p. engines, $500,000.

A speedy, streamlined, "articulated" tow, consisting of towboat and two 20,000 bbl. barges is somewhat less—$480,000—but the carrying capacity is only 40,000 bbls. compared with 60,000 bbls. The barges are estimated at $90,000 each; the towboat, $300,000. However, the "articulated" tow makes a turn around trip in less time than the conventional tow.

Oil barge and towboat construction costs have advanced about 50% over prewar 1941 costs, according to one large shipbuilder actively engaged in building both barges and boats. Large factors are labor and steel costs, and sales contracts usually contain escalator clauses for protection of the builder.

Prices of new barges range from about $4.50 to $5 per bbl. capacity, and new towboats from $150 to $400 per horsepower. Average price is about $200 per horsepower. At $4.50 per bbl., a barge of 7,000 bbls. capacity, which is among the smallest size, would cost $31,500; a 10,000 bbl. barge, $45,000 and a 20,000 bbl. barge, $90,000. Pumps are not included. About two weeks are required for the complete construction of a 20,000 bbl. barge.

Total cost of towboats runs from about $300,000 to $600,000 each, according to the shipbuilder, cost in addition to horsepower depends upon special equipment that may be used. For instance, a radio set installed, costs from $3,000 to $4,000, and radar, about $13,000 installed. From six weeks to two months is required for complete construction of a towboat.

Illustrated: The Leland Loadstar Type RA General Purpose Repulsion Start-Induction Run Motor

Product Pedigree for Equipment Purchasers

You will find the Leland name plate on motors powering a very wide variety of equipment—signifying the manufacturer's resolve to supply proven overall performance for his product. Although Leland is famous for explosion-proof motors—and although Leland gasoline dispensing pump motors far outsell the rest of the field combined—explosion-proof motors constitute only a portion of the Leland output. Look, too, for Leland-powered equipment to meet the same exacting standards *outside* the hazardous areas—on pumps, compressors, air conditioning units, machine tools, hoists, door operators, car washers and many others. *Look for Leland motors always—for a guide to good equipment.*

LELAND GENERAL PURPOSE MOTORS

HIGHER STARTING TORQUE per ampere of starting current characterizes Type RA Repulsion Start-Induction Run single phase motor illustrated. Other types are: Single Phase (Repulsion Induction, Split Phase and Capacitor Start, Induction Run); Polyphase; Direct Current.

SIZES: 1/6 to 5 HP; open drip-proof, enclosed, explosion-proof; sleeve or ball bearing; horizontal and vertical.

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Road and Laboratory Methods Determine Antiknock Quality of Today's Gasoline

NATIONAL PETROLEUM NEWS frequently receives requests from oil marketing men for information about the methods of testing the antiknock quality of gasoline. To answer the questions authoritatively, NPN asked two Standard Oil Co. (Ohio) engineers to prepare an article which would explain these methods accurately but with a minimum of technical terms.

Testing the antiknock quality of gasoline is accomplished in the laboratory mainly with the use of one of two test methods—CFR-Research and ASTM-Motor. There are also road test methods, each having its own special application, such as the Borderline road knock testing method which was adopted by the Coordinating Research Council.

The authors of this article point out the differences between test methods and some of the procedures used in making the tests. Gasoline sensitivity, of increasing importance with the advent of higher compression engines (see NPN March 31, p. 20), is explained and method of figuring is shown. Effect of spark advance and engine speed on fuel reaction also is discussed.

By E. H. SCOTT, group engineer, Standard Oil Co. (Ohio) and K. L. SHULL, chief chemist at Standard's Lima Refinery

The antiknock quality of fuels is at present evaluated by a combination of methods.

The CFR-Research and ASTM-Motor Methods are laboratory tests conducted under two sets of conditions in the Coordinating Fuel Research Committee (CFR) engine which is approved by the American Society for Testing Materials. The results serve as a basis for comparison of the severity of knocking in other engines.

Another method is known as the Borderline Knock Test. This evaluation is carried out in commercial motor vehicles under road conditions. The Borderline Knock Test Method is only one of several standardized road test procedures; each having its own special application for its particular field of study.

To understand the evaluation of fuels by a test method, be it under laboratory or road conditions, it is necessary that the type of equipment, conditions of test and scale of comparison be fully known. A discussion of the CFR-Research and ASTM-Motor methods from this standpoint follows. The Borderline Knock method of test is discussed in a subsequent portion of this paper.

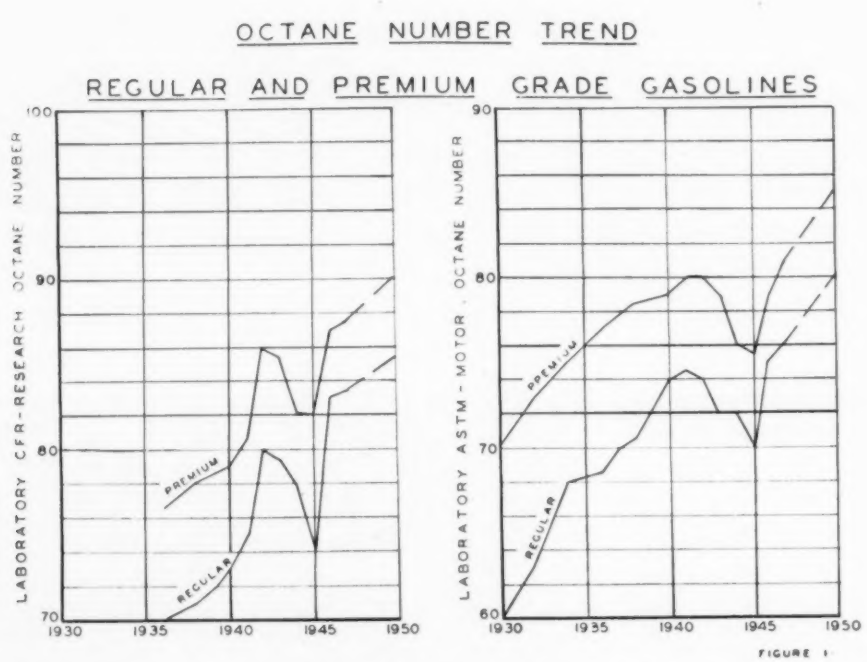

Fig. 1—Octane number trend of gasoline is traced in graph for both Research and ASTM-Motor Method of testing

Before going any further, it should be noted that the CFR-Research and the ASTM-Motor Methods tests are conducted in the same manner and with the same equipment, but with the test engine operating under different conditions.

The CFR engine, used in both tests, is described by the Coordinating Research Council as one having a continuously variable compression, together with suitable loading and accessory equipment, mounted upon a base plate.

The Coordinating Research Council describes the CFR engine as one having a continuously variable compression, together with suitable loading and accessory equipment, mounted upon a base plate. The dimensional specifications that have been found critical have been tabulated and rigid tolerances specified. The cylinder of the engine has been constructed in a sleeve arrangement so that the compression ratio can be varied by raising or lowering the engine head. The loading device consists of a synchronous motor-generator capable of maintaining a constant speed. The variables of speed, fuel-air ratio, fuel-air temperature, jacket temperature and spark advance, which have been found to have great effect on the knocking tendency of a fuel, are controlled within close limits. This standardization of engine characteristics has made possible a laboratory procedure for precision knock rating of fuels that has a remarkable reproducibility.

In the CFR engine the severity of knock is determined by operating the engine on the fuel to be tested under the conditions of test, either Research or ASTM-Motor. The fuel

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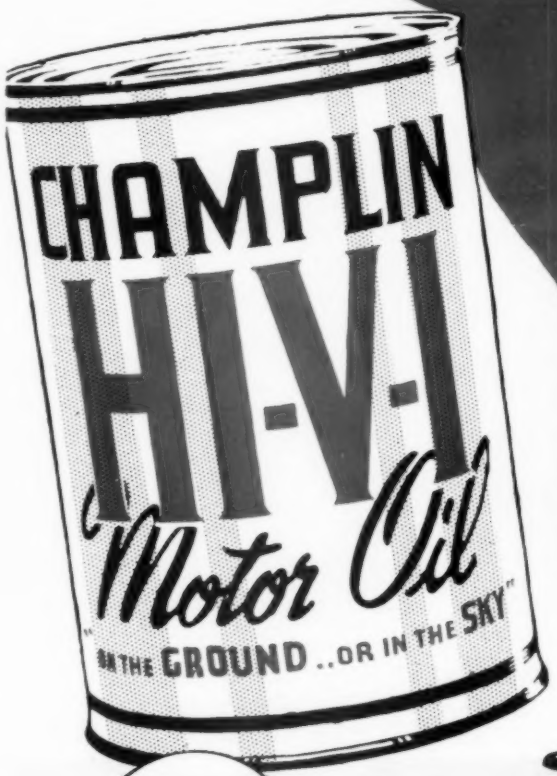

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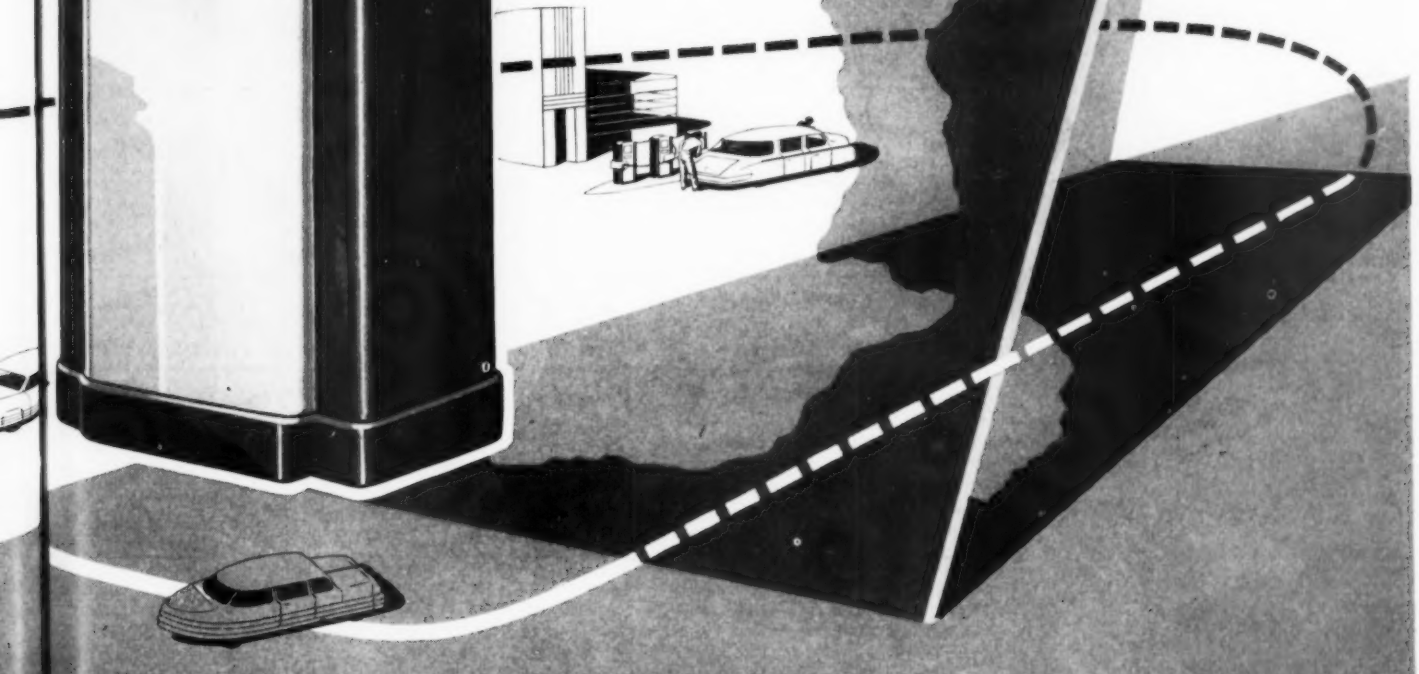

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how Santolube 395 can help you SELL the MAN who SELLS the PUBLIC

Santolube 395 can be a big help in selling independent automobile mechanics on your premium motor oil. And they, in turn, can go a long way towards selling the motoring public.

When a mechanic examines engine bearings that have been lubricated with an oil containing Santolube 395, he can usually see the improvement with his naked eye. Not only are metal surfaces more free of corrosion — they are not discolored by varnish and lacquer coatings left by the oil and many antioxidants and bearing corrosion inhibitors.

As a result of this over-all improvement in oil stability, engine surfaces are visibly cleaner. Engine deposits, oil thickening and acidity are all reduced. Engine performance is greatly improved.

Santolube 395 is completely compatible with all known base stocks. While not presented as a detergent, it does impart some degree of dispersance to the oil and also effects a measurable lowering of the A.S.T.M. pour point. For samples and full technical details, wire or write: MONSANTO CHEMICAL COMPANY, Petroleum Chemicals Department, 1700 South Second Street, St. Louis 4, Missouri. *Santolube: Reg. U. S. Pat. Off.*

Laboratory Controlled Engine Tests Prove Performance Below are typical results from a series of full scale engine tests on several types of base stocks with various concentrations of Santolube 395.	PISTON VARNISH (10.0=Clean Piston)	OVER-ALL DEPOSIT RATING (100.0=Clean Engine)	BEARING WT. LOSS (Grams/Whole Bearing)
Oil "A"...S.A.E. 30 Grade Base Oil (no additive)	9.0	95.0	1.500
Oil "A"...plus 0.67% Santolube 395	9.0	95.0	0.050
Oil "B"...S.A.E. 30 Grade Base Oil (no additive)	9.5	98.2	2.150
Oil "B"...plus 0.67% Santolube 395	9.5	97.0	0.185
Oil "C"...S.A.E. 30 Grade Base Oil (no additive)	9.0	97.0	over 5.0
Oil "C"...plus 1.00% Santolube 395	9.0	97.0	0.122
Oil "D"...S.A.E. 30 Grade Base Oil (no additive)	7.1	77.0	1.026
Oil "D"...plus 0.67% Santolube 395	8.6	96.0	0.014
Oil "E"...S.A.E. 30 Grade Base Oil (no additive)	1.0	46.5	0.084
Oil "E"...plus 1.00% Santolube 395	7.0	83.0	0.025

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is fed to the engine with a fuel-air ratio that will produce the maximum knock at the selected compression ratio. The device for measurement of knock intensity, known as the bouncing pin, is connected through the head of the engine to the combustion chamber. It consists of a metal tube inside of which is a metal rod resting on a metal diaphragm at the combustion chamber end of the tube. Upward motion of rod causes a set of electrical contacts to close, allowing current to flow. Different intensities of detonation in the combustion chamber cause corresponding differences in flexing of the diaphragm, which, in turn, governs movement of the rod resting on the diaphragm. The harder or higher the bounce the longer the contact points remain closed and the greater the amount of current that flows.

The current flow is indicated on an electrical unit or knockmeter which consists of a heater coil, the temperature of which is governed by the amount of current flowing during the time the contact points are together. The temperature of the coil is shown on the dial of the meter which is arbitrarily calibrated from 0 to 100. Thus as a fuel of good antiknock value will detonate to a lesser extent than one of poorer value, at any given compression ratio, the knockmeter reading for the good fuel will be lower than that of the poor antiknock fuel.

The knock intensity of an unknown fuel sample as measured by the knockmeter is adjusted to the center of the dial by adjustment of the compression ratio of the engine and the fuel-air ratio. The unknown fuel is then bracketed by higher and lower octane reference fuels selected on the basis of the expected knock rating of the fuel under test. The fuel-air mixture of each reference fuel is adjusted for the selected compression ratio, as was the unknown fuel, to produce a maximum meter reading on the knockmeter. After selecting reference fuels that bracket the test fuel, several trials may be necessary—a series of meter readings are obtained on the reference fuel and on the test fuel. The octane number is then determined by interpolation from the averages obtained. It is important that engine conditions be maintained so that the knockmeter sensitivity, or number of scale divisions per octane, be as large as possible.

Early in the investigation of fuel evaluation, the use of a reference scale was found the most convenient means of rating knock tendency. Isooctane (2, 2, 4 trimethyl pentane) and n-heptane, both of which could be produced in sufficiently pure form, were selected as the extremes of the scale and assigned arbitrary values of 100 to 0 respectively. On this scale, mixtures of the two components are given ratings equal to the percentage of isooctane present. Thus, if the knock intensity of a gasoline under test matches that of a mixture of 75 isooctane and 25 n-heptane, the test sample has an octane rating of 75.

Isooctane and n-heptane, designated as primary reference fuels, have until very recently been too expensive to use in routine evaluation of unknown fuels. It has been the practice therefore to replace the primary fuels with more economical secondary fuels which are prepared by taking suitable narrow boiling fractions from such stocks as straight run naphtha and alkylate. The secondary fuels are calibrated against the primary fuels with blending tables made for each separate batch of fuel so prepared. Thus all laboratory and road evaluations of unknown fuels are reported in terms of the primary fuels.

The first procedure developed for evaluating the knock characteristics of fuels was the so-called "Research Method". The conditions under which the engine operates for this method are presented in Table 1.

Table 1

	Method	
	Research	Motor
Engine Speed, RPM	600	900
Coolant Temperature, °F.	212	300
Mixture Temperature, °F. ...		300
Intake Air Temp., °F.	125	75-125
Spark Advance, °BTDC ..	13 @ 5:1 compression ratio and automatically variable at other compression ratios.	26
Fuel-Air Ratio	For maximum knock.	For maximum knock.

After this procedure had been in use for some time it was found that performance of a fuel under the laboratory conditions was not comparable with its performance under the increased engine speeds, compression ratios and temperatures of road performance. In 1932, after a road test program known as the Uniontown Road Tests, an additional laboratory method was adopted and made the ASTM-Motor Method. The operating conditions of this method are also presented in Table 1. The increased speed, higher coolant and mixture temperatures and variable spark advance indicate more severe operating conditions than those of the Research Method.

Generally, most of the present gasolines have a lower octane number by the Motor Method than by the Research Method, although straight-run gasolines have approximately the same value by either method. The difference or spread obtained between the two methods has been designated as fuel sensitivity and is defined as follows:

Sensitivity = CFR-Research Octane Number — ASTM-Motor Octane Number.

Thus the greater the difference between ratings by the two methods, the greater the fuel sensitivity.

Investigation has revealed some of the reasons for fuel sensitivity. It has been found that the straight run gasoline, which has essentially the same octane value by both methods, is composed primarily of saturated straight chain hydrocarbons. A divergence between the methods is noted as soon as thermal, catalytic or polymer gasolines are present in the fuel. Thermal cracking is known to produce unsaturated and branch chain compounds. Catalytic cracking is known to produce even greater amounts of these and some aromatic while polymers consist of nearly 100% unsaturated material. The sensitivity of the fuel is found to increase as the percentge of unsaturates and branch chain material increases. Table 2 gives representative octane numbers for typical straight run, thermally cracked, catalytically cracked and polymer stocks and the sensitivity that might be expected from them.

Table 2

	Octane No.		
Gasoline	Research	Motor	Sensitivity
Straight Run ..	55	55	0
Thermal	80	70	10
Catalytic	90	78	12
Polymer	95	80	15

As most of the finished gasolines are combinations of variable amounts of these stocks, the sensitivity is usually in the range of 5 to 9. The average sensitivity of prewar regular grade fuels in 1941 was 7, whereas the sensitivity in December of 1946 had risen 1 point to 8.

For control purposes, the single cylinder laboratory test engines are necessary as a simple, easy and rapid method of regulating refinery production. But, to have satisfactory field or public approval, a fuel must perform satisfactorily in commercial multi-cylinder, variable speed combustion engines. This requires considerable road testing to make certain that the standards set for laboratory testing are satisfactory for road performance.

To date, there have been many different road test procedures, some developed and used by individual companies, and others developed by several companies working cooperatively to find what could be termed an adequate test procedure. The first of these was the Uniontown Procedure. This is named after Uniontown, Pa., where a group of oil men met in 1932 and developed what was then thought to be an adequate road test procedure. This method,

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although satisfactory at the time, proved to be inefficient since only a limited number of fuels could be run in a certain period of time because of the considerable repetition and mechanical adjustments that were necessary. The Uniontown test procedure evaluated test fuels in terms of maximum knock intensity, the comparison being made at the speeds at which the unknown test fuels and reference fuels, respectively, exhibited the maximum tendency to knock.

Effect of Engine Speed

One of the most important factors about which more complete information was desired, was the effect of engine speed on knocking characteristics of different unknown fuels as related to ignition timing. It was also desired to evaluate the antiknock quality of the unknown test fuels over the portion of the speed range in which there was no knocking.

In 1940, a similar cooperative survey was conducted at San Bernardino, California. This cooperative test was sponsored by the Committee on Fuel Research of the Coordinating Research Council, and the test procedure developed at that time was the so-called Borderline Road Knock Testing Method. The Borderline Method was adopted by the Coordinating Research Council in 1941 as a standard road test procedure, and now carries the official CRC designation F-8A-943. This method gained favor over the Uniontown Method because a greater number of fuels could be run in a given period and mechanisms were developed which allowed easy and complete mechanical control over the spark setting from inside the car. The Borderline test procedure also proved to be superior to the Uniontown procedure in that it gave to the industry a means for finding out how engines and fuels reacted to changes in engine speed. The Borderline test method utilizes the relationship between ignition timing, engine speed, and fuel knocking tendencies.

Results from the Borderline test method show graphically the ability of a fuel to appreciate varying degrees of distributor spark advance. Varying the spark setting in increasing increments increases the engine's antiknock demand. This method shows how the engine will tolerate degrees of spark advance, or the ability of a fuel to withstand varying degrees of engine antiknock demand throughout the speed range. A borderline knock cure is therefore a plotted relation of degrees spark advance to engine revolutions per minute.

Borderline Test Method

A brief description of the Borderline Road Knock Testing Method is as follows: The car used could be a standard commercial vehicle or a special high compression ratio automobile. The use of a standard compression ratio car will show the effect of fuel and the octane value to customer driver acceptance as well as what fuel is necessary for present day conditions. The use of high compression ratio cars will show the effect of fuel and its octane value under high compression conditions. The latter is purely a research tool, and is necessary for future development.

In carrying out a road test program under standard compression rating conditions, the engine of the test car is first put in mechanically perfect condition. The only special equipment necessary is a "tied-down" or fixed distributor in which the governor weights are tied down to eliminate any effect of automatic ignition advance caused by the governor with increase in speed. The distributor vacuum is also disconnected to eliminate automatic ignition advance due to changes in manifold depression of the engine. A special control arm is fitted to the distributor to allow any desired initial spark setting to be selected from the cab of the test vehicle. This setting is usually made from an indicator dial or tape as plotted previously from reading flywheel advance readings by a stroboscopic light on a pre-calibrated flywheel or vibration damper markings. Other special instrumentation includes the installation of a tachometer to measure engine speed in revolutions per minute, and thermocouples to read carburetor air-intake temperature, oil crankcase temperature and engine coolant temperature. Temperature control is important in order to ascertain that the engine is operating at standard operating conditions, since true knock ratings will not be obtained under variable engine temperatures.

The car is then accelerated at full throttle in high gear through a speed range of 10 miles per hour to 60 miles per hour. The speed at which the knock is last heard, or dies out, is noted and then plotted as a point (Point "A" on Fig. 2) on a curve with speed in engine RPM as the abcissa, and degrees spark advance as the ordinate. The procedure is repeated with an increase in spark setting, usually in two degree increments, and the car accelerated as previously through the range of 10 to 60 miles per hour and the point (Point "B") is again noted at the speed where again the knock is last heard. Each point is checked as many times as is necessary to obtain check results. Excessive knocking is avoided because it has been found to effect the reproducibility of the knock-die-out point. This procedure is followed for the fuel until a series of points are obtained which represent the border-line of the knock and no-knock area. In other words, the area below the line represents the knock region whereas the area above the line represents the no-knock region.

It might be confusing to refer to car speed in miles per hour and plot speed in engine revolutions per minute. Engine RPM is accepted to be the more accurate method of plotting data because car speedometers have been found to vary from one car to another, and, with the advent of automatic transmissions, engine speed to ground speed is not constant for all cars.

In using engine tachometers, the accelerating speed range is from approximately 500 to 3,000 RPM, or about 10 to 60 miles per hour.

A question arising at this time is "what does this road test method

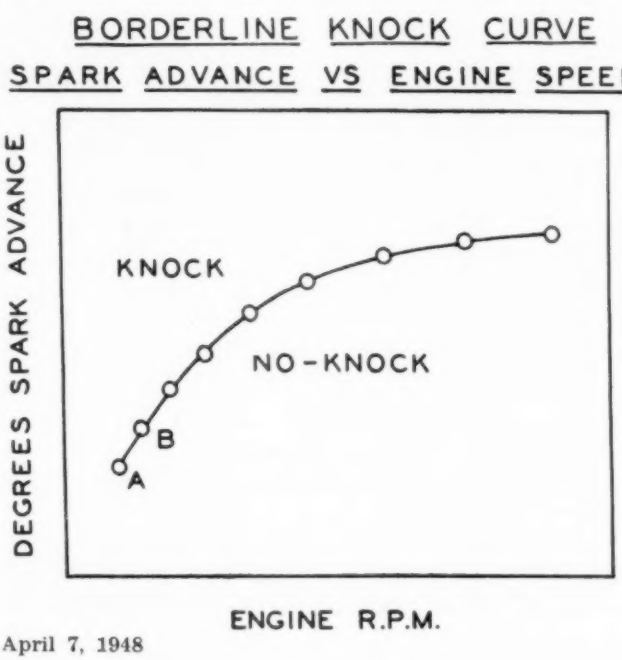

Fig. 2 — Speed at which knock is last heard, or dies out, is plotted on the graph for each distributor spark advance which is usually in 2 increments. Car is accelerated at full throttle through 10 to 60 mph

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show over and above the laboratory knock rating?" Figure 3 has been prepared to show the two extremes in road testing. On this curve Fuels "1" and "2", two fuels of different chemical composition, are plotted in relation to a representative automatic distributor curve. The two fuels could well have the same knock rating by a single laboratory procedure, but when Borderline road rated these two fuels show widely different responses to changes in spark advance. Fuel "1" has less permissible knock free spark advance than Fuel "2" at low speed, while the reverse is the case at high speeds. Fuel "1" is a so-called low speed knocking fuel and Fuel "2" a so-called high speed knocking fuel. Fuels "1" and "2" are representative of highly paraffinic and highly olefinic fuels, respectively. The paraffinic fuel would be typical of a straight run fuel, and the olefinic fuel would be typical of a cracked fuel. The shadowed section represents the knocking area of the two fuels shown. This area is governed by the distributor curve which represents the knock/no-knock limit for this particular distributor.

Both the laboratory and Borderline road test procedures rate fuels relative to the same reference fuels. This fact in itself is important since it allows the laboratory and road ratings to be made on a comparable basis. In both cases the unknown fuel is bracketed by known reference fuel blends. It is known that octane values vary likewise with the type of reference fuels used to define them. Therefore, when using secondary reference fuels for road rating the results are referred to the standard primary reference fuel values by use of the Equivalent ASTM-Octane Number scale of the secondary fuel. For road test work, blends of secondary reference fuels are prepared to cover predetermined ranges in either 2.5 or 5 octane number intervals, (i.e. either 70, 72.5, 75, 77.5, etc., or 70, 75, 80, 85, 90).

Using secondary reference fuel blends of five octane increments between 70 and 90 octane, and two unknown test fuels, "1" and "2", a resulting Borderline test plot could be obtained as is shown in Figure 4. The Equivalent ASTM Octane Numbers of these two unknown test fuels is shown in table below.

This, in general, outlines briefly the

Fuel	Engine Speed (RPM)				
	1000	1500	2000	2500	3000
1	72	73	74	75	...
2	83	79	74	71.5	70.5

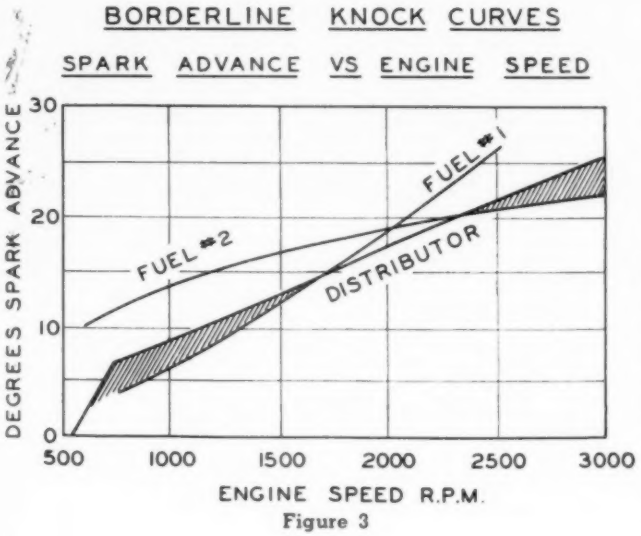

Figure 3

The distributor curve in Fig. 3, shows the degrees spark advance at corresponding engine speeds of a representative distributor. All distributors installed on current model cars are built to allow an increase in degrees spark advance as the engine speed increases. This is controlled by two methods:

1) Vacuum attachment, and 2) governor weights and springs.

At full throttle operation, the vacuum effect approaches zero and all advance is the result of the centrifugal force of the governor weight acting against the governor springs. The reason for this increase in degrees spark advance with increase in speed is to minimize the effect of ignition delay. That is, the greater the engine speed, the sooner the ignition has to take place in order to take advantage of a long power stroke of the piston. This curve can be varied by two methods: (1) Changing the initial or idle speed setting of the distributor, or (2) changing governor spring tension.

Fuel 1, as shown, falls below the distributor curve in the low speed range. This means that this fuel (as shown) will only tolerate about six degrees advance, whereas the distributor has advanced about 9°, consequently the fuel will knock. This is true whenever fuel falls below the distributor curve, as is shown with Fuel 2, which falls below the distributor curve in the high speed range.

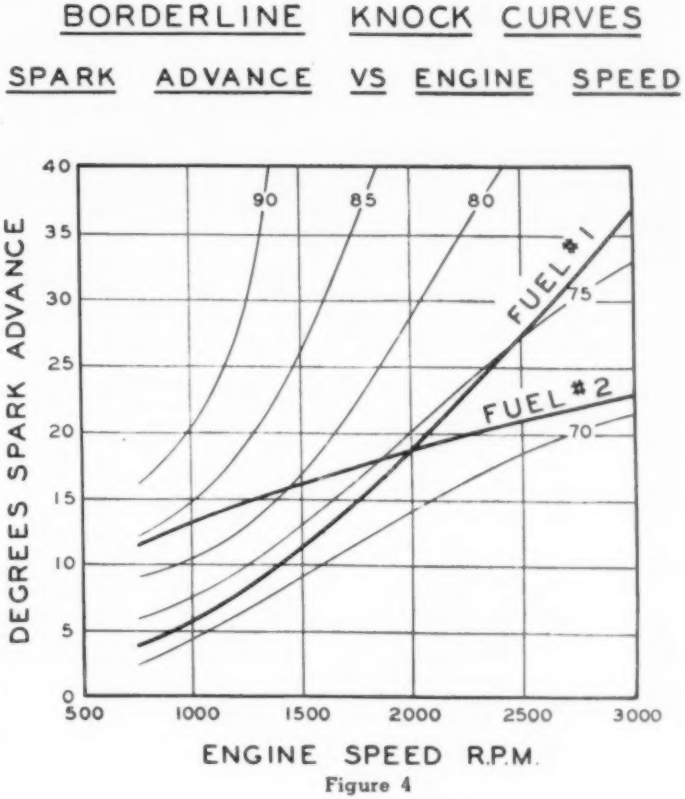

Figure 4

Curve in Fig. 4 represents a typical borderline test result of two unknown fuels, superimposed on a reference fuel framework. This curve is a development as carried through from Figures 2 and 3. Each individual curve represents a series of points which were obtained as shown in Figure 2. If the distributor curve, as shown in Figure 3, were superimposed on this reference fuel framework, the octane demand for this car could be determined over the speed range.

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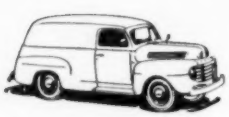
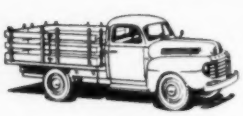
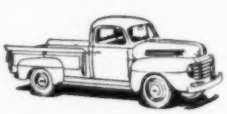


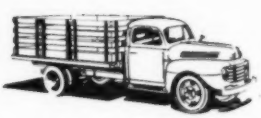
F-1—4,700 lbs. GVW. 8′ Panel, 6½′ Pickup, 6½′ Platform or Stake. 114″ w.b. V-8 or Six.



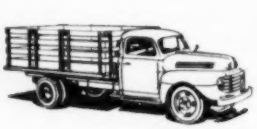
F-2—5,700 lbs. GVW. 7½′ Platform or Stake, 8′ Express. 122″ w.b. V-8 or Six engine.



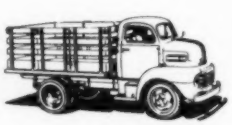
F-3—6,800 lbs. GVW. 7½′ Platform or Stake, 8′ Express. 122″ w.b. V-8 or Six engine.



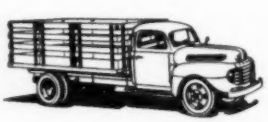
F-4—7,500 lbs. GVW. (singles), 10,000 lbs. (duals). 9′ Platform or Stake. 134″ w.b. V-8 or 6.



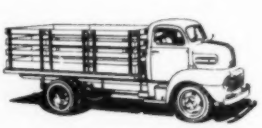
F-5—14,000 lbs. GVW. 9′ & 12′ Platforms or Stakes. 134″ w.b. & 158″ w.b. V-8 or Six engine.



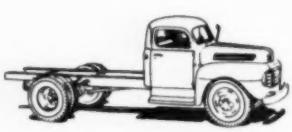
F-5 C.O.E.—14,000 lbs. GVW. 9′ & 12′ Platforms or Stakes. 110″-134″-158″ w.b. V-8 or Six.



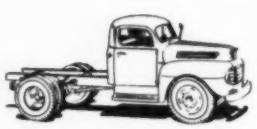
F-6—15,500 lbs. GVW. 9′ & 12′ Platforms or Stakes. 134″ w.b. & 158″ w.b. V-8 or Six engine.



F-6 C.O.E.—16,000 lbs. GVW. 9′ & 12′ Platforms or Stakes. 110″-134″-158″ w.b. V-8 or Six.



F-7—19,000 lbs. GVW. 135″-159″-195″ w.b. 9.00-20 maximum tires. 145 h.p. V-8 engine.



F-8—21,500 lbs. GVW. 135″-159″-195″ w.b. 10.00-20 tires. 2-speed axle. 145 h.p. engine.

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mechanism of the Borderline Road Knock Testing Method. There are other methods in use with special application for particular fields of study, but no attempt will be made to discuss them in this paper.

By analysis of a vast amount of data gathered in the past and not presented in this paper, and plotting the equivalent road octane values, against the CFR-Research method and the ASTM-Motor method, in an attempt to find laboratory road correlation, it was found that the equivalent road octane values correlated very well with the Research laboratory method at low speeds, and that the equivalent road octane value correlated very well with the laboratory ASTM-Motor method at high speeds. To be more specific the correlation was best at 750 RPM vs. Research and 2,500 RPM vs. ASTM-Motor. This average correlation was in the range of 2 to 3 octane number deviation from true correlation of laboratory to road octane rating. That is, a fuel of 82.5 laboratory research octane value and 77.0 laboratory motor octane value might rate 80.5 octane at 1,000 rpm and 75.0 octane at 2,500 rpm when road tested. In more recent years, it has been found that with mechanical changes in automobiles not all cars could be rated at the low speed of 750 RPM, hence it has become common practice to use the speed of 1,000 RPM to represent the low speed statistically. The value of the CFR-Research method of determining the octane value is that in most conventional automobile engines the maximum octane requirement is in the low speed range, and as the speed increases, the octane requirement decreases. Based on results of prewar surveys of motor cars, indications were that 100% of the octane requirements for 1941 cars could be met with 85 road octane gasolines. Recent tests on current model vehicles have indicated that it might be necessary to go to slightly higher values to accomplish this same objective.

As has been pointed out earlier in this paper, fuel sensitivity is a measure of the arithmetical difference between the octane values of the laboratory CFR-Research and ASTM-Motor knock rating methods. Fuels of high sensitivity will, within certain limits, give better road performance than fuels of low sensitivity, assuming the two comparison fuels have the same laboratory motor octane rating. This is true because fuels of high sensitivity permit greater degrees of spark advance than fuels of low sensitivity.

Pledges Science Building Fund

TULSA—Subscription of $100,000 toward completion of the $750,000 Petroleum Science Building at the University of Tulsa has been made by Carter Oil Co. Earlier Stanolind Oil & Gas Co. announced a $125,000 grant to the university for the building.

Injection of Antiknock Fluid Makes Possible Big Gain in Octane Performance, NGAA Told

By V. B. GUTHRIE
NPN Technical Editor

FORT WORTH — Large increases in octane performance above the octane ratings of present day motor fuels are possible by the injection of an antidetonant fluid into the fuel-air stream, Ray I. Potter, chief of the lubricant and fuel service division, Standard Oil Co. (Ohio), Cleveland, told the Natural Gasoline Assn. of America at its meeting here March 24-26.

His remark was based on experimental work in his company's laboratory with the Thompson Vita-Meter injection device (see NPN, March 10, p.22). The tests were made on an engine in the current model low price field, with the compression ratio increased from 6.5 to 9.0. The antidetonant injection showed an incremental octane improvement of approximately 20 octane numbers, it was stated.

"If this engine is typical of other high compression engines in performance," said Mr. Potter, "it would be at least technically reasonable to assume that injection could be relied upon to bridge the gap and furnish satisfactory antiknock performance between present day and future high compression engines requiring fuels in the range of iso-octane to satisfy their peak requirements."

In its current work in exploring the behavior of high octane engine and fuel performance, Mr. Potter's group studied both the increased power output at the flywheel and the octane requirement of the high compression engine. The engine was tested in a dynamometer at best spark advance and was found to give approximately 88 brake horsepower at 3100 rpm.

Probe Effect on Power Output

Effect on power output of the high compression engine equipped with the Vita-Meter was investigated and tests were run with proper amounts of injection throughout the speed range. A supercharging effect was noticeable in the speed range of 1000 to 2000 rpm. which results in about a 1% increase in brake horsepower, it was stated.

Octane requirements were taken on the dynamometer under full throttle conditions on both the standard and high compression engines and an average increase of about 22 octanes was occasioned by high compressioning, or about nine octanes average per one compression ratio increase.

The engine was next equipped with a flange-mounted Vita-Meter and the effects of antidetonant injection were investigated on the dynamometer under full load conditions at all speeds, as it is during these conditions that highest fuel antiknock performance is demanded. The base octane number of the fuel required was taken as the difference between the increment octane supplied by the Vita-Meter and total engine octane requirement. It was noted that the requirement of the base fuel with antidetonant injection was only slightly higher than the requirement of the standard engine. The antidetonant injection showed an incremental octane improvement of approximately 20 octane numbers.

Mr. Potter's remarks were made in his discussion of a paper entitled "Economics of Antidetonant Injection," presented before N.G.A.A. by C. H. Van Hartesveldt, vice president of Thompson Vita-Meter Corp.

An alcohol-water-tetraethyl lead antidetonant injected automatically into the fuel-air stream through the Vita-Meter will provide octane numbers at costs competitive with refinery methods, said Mr. Van Hartesveldt.

This new source of antiknock quality can be used in two ways. First it may be added to low octane number, high burning quality gasoline to give adequate octane number and important maintenance savings to commercial fleets. "Gasoline burning quality has largely been overlooked by refiners who have necessarily had their interest centered on the octane race," he said. "Olefinic and aromatic products of cracking and reforming processes are the source of most of the sludge in cars on the road today. In general, the higher the octane number from these processes the more soot and sludge the fuel makes."

The second use of the Vita-Meter injection device is with regular and premium grades of gasoline to satisfy the requirement of high compression ratio engines. These applications, said Mr. Van Hartesveldt, can increase the yield of gasoline from crude oil and decrease refinery investments over the years to come.

"Enough experience has been gained to show that a considerable antiknock quality gain is available at costs which are competitive with and in many cases cheaper than refinery methods," he said.

Cites Fleet Results

"A large tank truck fleet of 188 vehicles has been operating with a 45% isopropanol-water solution as the antidetonant since last June. The full throttle injection rate averages 22.5% and the over-all usage has been 5.5%. This rate of injection gave an increment of 10 octane numbers on top of 63 octane straight-run gasoline. The 10 octane numbers were gained for 100 gallons of gasoline by the use of 2.47 gallons of alcohol. Isopropanol delivered at 38c per gal. (91%) would cost $1.04 for this amount.

"An 85-15 solution containing 3cc of tetraethyl lead per gallon would give the same result for a 2.0% over-

all usage rate. This would require 1.70 gallons of alcohol, or a material cost of 42c with tetraethyl lead and inhibitor. This comes to 0.42c per 10 octane numbers per gallon of gasoline.

"In taxicab service we have found that 19 octane numbers can be added to 59 octane number clear gasoline with a maximum rate of injection of 15%. The total use of solution has been 2.2% of gasoline consumed. Methanol at 24c a gal. gives a material cost of 46c for this amount of solution, or 0.46c per 19 octane numbers per gallon of gasoline."

Tie-in Sales May Force Them Out of Business

Letters From Independent Lube Marketers Say

Letters from several independent lubricating oil and grease manufacturers and marketers have been received by NATIONAL PETROLEUM NEWS since March 10 when NPN published an editorial "Majors Can Avoid a New Headache by Listening to Complaints of Lube Independents on Tie-in Sales."

The letters recently received are reproduced below. In each instance the writer asked that his name be withheld:

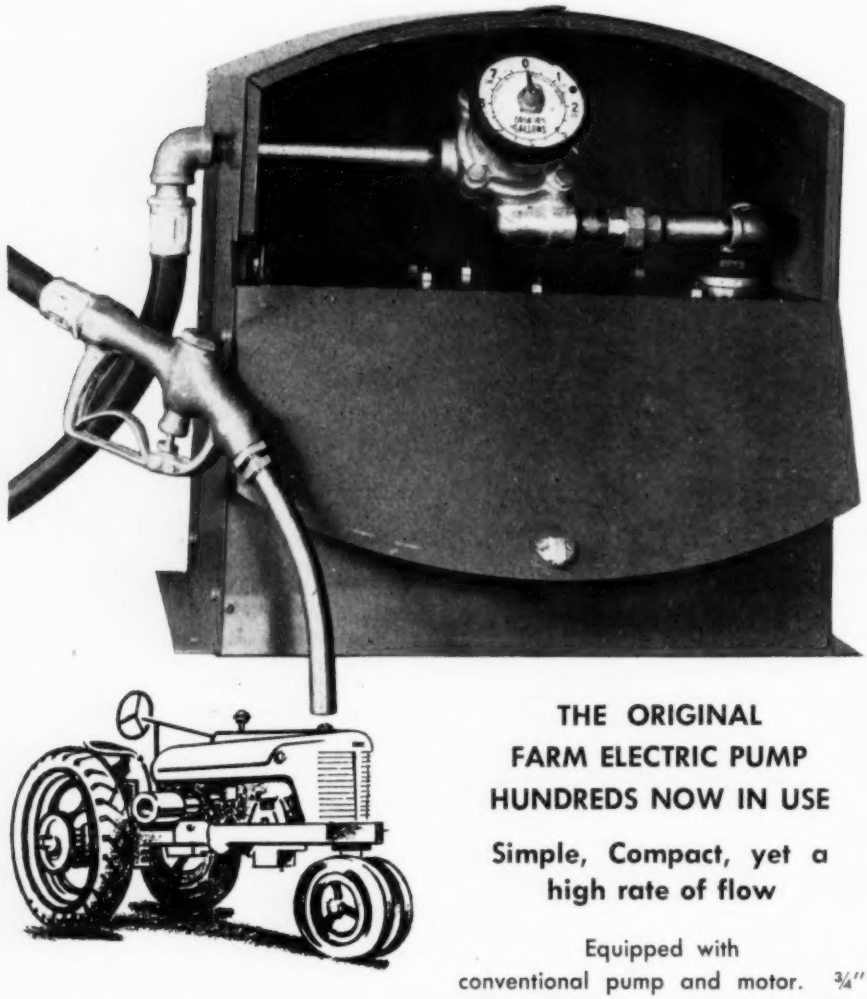
* * *

During the 25 years in which I have been engaged in the oil business, I have read much, listened for hours, and at various times, in an official or executive capacity, have had considerable to do with fair trade practices, unethical competition, in about all of its varied and evil forms known to the oil industry over the past quarter century. I have spent many years in varied official positions with one of the major companies and, therefore, have a pretty fair idea of the general pattern being followed today and of the responsibility for the situation which is openly apparent on all sides of us in the marketing industry.

Because of my familiarity of the inside workings of major organizations, from the sales department heads to the salesmen in the field. I cannot help but feel very deep down that once again many of the practices being reported today are the result of a tongue-in-the-cheek, lip service by those who are in authority to stop such practices rather than a clear-cut, well-understood, honest-to-goodness policy which has been well defined down the ranks. I believe that the editor is being overly generous when he suggests it is but just a matter of aggressiveness by individual salesmen who have been known to figure out some questionable or even illegal things on their own.

Our company has been in the business of selling lubricating oils and greases exclusively for more than 10 years. I have seen a marked intensity of monopolistic pressure applied since the early days of gasoline rationing and subsequent shortages during the war years. Like most other specialized marketers, I have felt the futility of individual protest. Always there has been the hope that some united action might be just in the offing which would help to correct the evil.

When I say that the practices are condoned by higher-ups than the salesmen, I can speak from personal experience. A top local official of one of the major oil companies in this area, whom I had known for some years before, sat in my home one evening and quite unwittingly related the entire story of how he had succeeded in bringing pressure to bear upon one of my customers whose source of lubricating oil supply was unfamiliar to him. This local official told me how he had got this customer on the telephone and told him, in no uncertain terms, that they were not interested in continuing to supply him with Diesel fuel, on which they made "little profit," "unless they were to enjoy the lubricating oil business, also." I was familiar with the circumstances, having been advised by my customer just what the situation was and why he had discontinued purchasing from me, which was very much against his will. This customer had



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even asked me if I would be willing to go and appear in court if he would bring suit. Again, being in the category of the little fellow, I felt that I could not afford to become embroiled in such a controversy.

Within recent weeks, another customer called me during the height of the recent fuel oil shortage and told me he had been compelled to agree to purchase a given number of barrels of lubricating oil or else shut down his plant for lack of fuel. At the time he called me, he stated that the major company salesmen had just left there and that he had agreed to take the oil, under protest, but that he had no intention of disturbing his Diesel engine operation by the introduction of a different kind of oil and that he had further told the salesman that he would burn the oil in his boiler rather than use it.

Within the past two weeks I have had two 150 case orders cancelled from larger reseller accounts. One of these reseller accounts told me that he had the option of buying so much motor oil or so many seat covers and other accessories from the major company supplying him.

These are but a few of the cases reflecting the very flagrant uses of pressure which are being brought to bear in this area every day. It is so generally known and accepted in this part of the country that I was rather surprised when in recent issues of the NATIONAL PETROLEUM NEWS it was indicated that seemingly the API Directors Committee and others were really in earnest about the whole thing.

I was under the impression that our situation was much the same as prevails throughout the southern and Midwest states, this impression having been gained in telephone conversations with various of our refinery suppliers located at widely spread parts of the country. In conversations with them, discussions bearing on the practices seemed to elicit no further interest other than the fact that perhaps 500 or 1,000 miles from here they were encountering the same thing.

With the shutting out of private brands from practically all of the major contract dealer service stations, and with the pressure brought to bear upon industrial and large consumer accounts, the future has indeed looked dark for the marketer of the independent brand, and the writer has on more than one occasion in recent months privately given serious consideration to the thought of liquidating his business because of this tightening band of monopolistic practices which do not bode well for the future of the independent marketer.

Our company maintains a small organization and sales staff, and by all practical standards has been what might be considered in average circles as successful. However, unless the picture changes, which I sincerely hope it will, through some clear-cut, well-defined, active program, the marketer of the independent brand is going to find more and more doors closed to his products.

* * *

We are but a small Independent company marketing our lubricating oils and greases. Having no distribution on fuels or gasoline we find ourselves losing old customers through fear on their part brought on by intimidatons by their fuel suppliers. When we say "suppliers," we mean the major companies who have their bulk stations in the small towns and rural communities where we sell our lubricants.

We have had a large number of reports from our salesmen that many of their old customers, both dealers and power farmers, say that they can't buy from us this year because their source of fuel supply has not only suggested they also buy their lube oil and grease from them, but in some cases openly warned them of the consequences if they don't.

While farm lubricants is our principal business, nevertheless we do sell others. This week, for instance, we attempted to sell a local truck line, with whom we do considerable business, a few drums of grease. They told us that while they appreciated our business they couldn't jeopardize their chances to get gasoline from their present supplier by having any of our lubricants on their floor where their major oil company connection could see it.

Again this week a very good friend of ours, a dredging contractor, said he would like to buy his requirements of lubricants for this year from us, but that he had to give this business to a major company from whom he buys his gasoline. He didn't use this as an excuse to say no to a request for his business. We didn't solicit him—he voluntarily offered this information.

We may be reminded that tie-in sales are illegal and that the majors can't do that. The fact remains they are, but to bring such unfair, unethical and illegal practices to court would be sheer folly for a small company like ours. It would break us before we could ever get started.

Our knowledge of the ways and thinking of the majors is very limited, but it does seem to us that tie-in sales are not good will builders.

By instigating, or at least condoning, such unfair methods, can the majors wonder at those who favor government regulation of the petroleum industry? It is our belief that most of us, Independents and majors alike, would prefer the industry be free from government regulation, but on the other hand when the unfair practices of the majors threaten the very life of the Independent can the small oil man be blamed for invoking the assistance of his government?

* * *

We commend you for the article in the March 10 NATIONAL PETROLEUM NEWS relative to suppliers who furnish light oils to the jobbers insisting that they in turn purchase their lubricating oils and greases.

We have for some time experienced the same trouble. Salesmen run into this stone wall regularly. In one day recently we received a report from a salesman to the effect that he called on three jobbers who have been doing business with us for several years, and they shrugged their shoulders and gave him the sad story that they would have to place their lubricating oil business with their gasoline supplier.

One of these jobbers told our salesman that just the other day he placed an order for 300 cases of motor oil in quart cans with the supplier of gasoline (incidentally not a refiner, but a concern which has gasoline and fuel oil connections) which ordinarily would have been placed with us. This supplier's salesman told the jobber that he would expect the jobber's lubricating oil and grease business as long as there is a short supply of gasoline and fuel oil.

ICC Grants Truck Permit To Minneapolis Operator

NPN News Bureau

WASHINGTON — Petroleum Carriers Co., Minneapolis, has been granted motor carrier authority by Interstate Commerce Commission in proceeding involving principle that carrier should be permitted to follow its traffic when, through no fault of its own, traffic's point of origin is changed.

ICC authorized company to transport petroleum products, in bulk, in tank trucks, from Fargo and Grand Forks, N. D., and points in North Dakota within 10 miles of each, to points in Minnesota within 200 miles of Fargo and Grand Forks.

It said Petroleum filed application for authority because of extension of pipe line to Fargo and Grand Forks. Most of traffic, it said, would not be new to Petroleum but was occasioned by opening of "comparatively new" pipe line terminals as a closer source of supply to customers who might otherwise be served from other points.

Auto Tax Tops Income Levy

Special to NPN

DALLAS—The average Texas motorist pays taxes on his motor vehicle at a rate higher than his federal income tax, according to a study released by Texas Mid-Continent Oil & Gas Assn.

"The tax bill on the average Texas motorist is $82 annually when he totals state and federal gasoline taxes, state registration fees and federal automotive taxes," R. B. Anderson, association president, said.

Diesel Engine Standards Book

"Marine Diesel Engine Standards," a 180-page book published by Diesel Engine Manufacturers Assn. for naval architects, shipbuilders and ship operators. Text covers application, performance, operation and maintenance of marine Diesel engines in the types of craft in which they are commonly used. Fuel oil, lubricating oil, and engine parts and accessories are also discussed.

Copies may be procured from Diesel Engine Manufacturers Assn., One North LaSalle St., Chicago 2, Ill. Price is $5.

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Nothing Left to Chance in Esso's Plans in Moving Into New Quarters

By NPN Staff Writer

When the Esso Standard Oil Co. moved its offices from the old Standard Oil building at 26 Broadway to its brand new air-conditioned, limestone faced, 33-story home at 15 West 51st St. in Rockefeller Center, New York City, this winter, daily newspapers gave a big play to the new structure, described all its modern features and its expensive construction.

But what they didn't mention was the elaborate plans and painstaking procedure which Standard developed to make the actual move—the largest of its kind—as inexpensive as possible. Jersey Standard's procedure in completing the move with a minimum of lost manhours and overhead costs can be profitably applied to a similar move by the smallest office headquarters in any town or city.

Guiding principle under which J. W. Swanson, head of Standard's general service department, operated in planning and co-ordinating the move was that the company's business must be uninterrupted. An extra dollar spent in planning or additional moving costs saved a hundred in lost sales or offices workers "dead time" which would have resulted if daytime operations hours had been lost.

Care given to the moving was as great as that given to a large refinery turnaround. Fist step was to take architects "shell drawings" of the new building, which consisted of the main walls, floors and shafts, and from these develop the detailed partitioning and office arrangement which each department required.

Final drawings which were furnished to moving crews showed the location of each piece of office furniture down to the last chair and filing cabinet. Each desk location was marked with the user's name.

In between the preliminary and final drawings stood two years of coordinating the desires of each department, the plans of the architects and the contractors, right down to the minutest detail.

Maintaining Communications

One of the more complicated problems was the maintenance of communications during the move. In order that telephone service might be immediately available, a new 12-position switchboard was constructed at 30 Rockefeller Plaza while the new building was being completed. When the move began, the old four-position board of the parent company was abandoned and overnight a reinforced crew of operators began to take calls for both Jersey Standard and Esso. Use of the old board at 26 Broadway was gradually tapered off as the move progressed.

Installation of communication equipment for the office staffs of approximately 2,200 people involved putting 1,400 telephones in the new building with accompanying under floor and inter building lines. A complete teletypewriter switchboard, 19 teletype machines and lines were moved from 26 Broadway and installed in the new building over one week end. Telautographs also had to be moved and new electrical buzzer and clock system installed.

In the move itself "logistics problems involved the following:

1. 375,000 square feet of office space had to be arranged.

2. 500,000 cubic feet, or about 1,200 tons, of office furniture had to be moved.

3. 50,000 cubic feet, about 100 tons, of new furniture was purchased and installed.

4. This took 600 truckloads. 100 additional loads were required for special equipment: business machines, teletypewriters, etc.

5. Move had to be co-ordinated from company's old quarters in seven other buildings besides 26 Broadway. Departments moved from 25 Broad St.; 32, 42, and 115 Broadway; 17 Battery Place; 86 Trinity Place; 30 Rockefeller Plaza, and some personnel moved over from New Jersey.

Faced with these problems the following procedure was adopted:

1. All moving was done at night or over week ends. Esso found that paying time and a half to moving crews was cheap, compared with cost of chaos that would have ensued if move had been made during business hours. After hours, elevators were available; streets were comparatively clear of traffic; and office staffs were not underfoot.

2. Prior to a department's moving, each piece of office furniture right down to the last stapler was tagged with the users name and the articles location on the final office drawing of the new building. This was a most important preliminary which permitted the following money saving steps.

3. Moving crews did not have to accompany their loads and supervision was reduced to a minimum. Office staff personnel did not have to stay after hours to see that things were in the right place.

4. Since two or more crews, armed with office drawings, could stay at loading and unloading points, trucks did not have to be made up into convoys, but six or more would be shuttling back and forth singly. Stand-

ard estimated that it was able in this manner to move 55 loads from 25 Broad St. in one night. Normal methods would have taken four to five days.

5. Special method was evolved for handling sectional filing cabinets from main file rooms. Each cabinet was coded so that moving crews at other end could assemble the complete office file without supervision. Office staff was able to resume handling files without delay next day.

6. Special handling was used from one end of trip to other. Trolleys and ramps were used for all large objects to eliminate lifting. Small objects were consolidated, palletized, and also put on trolleys. Small office accessories were placed in standard "book boxes;" then these were palletized. Pallets were all labeled even as individual articles were tagged.

Result of all these preparations was that a major department staff could go home Friday night, return Monday morning, and if they remembered to go to the new address, find their familiar surroundings transplanted with uncanny accuracy.

The situation was solved quickly by moving crews who placed regular moving trolleys under each wheel of the car and skated it not too gently onto the sidewalk.

The big move from 26 Broadway isn't the end, Standard knows. There are bound to be dozens of little moves within the new building as the result of changes in departments and operations. In the interests of saving money and increasing profits in the long run, Esso has used flooring and partition material which will make future alterations as painless as possible. These also will be handled by the general service department.

For all partitioning Esso has used Transite which can be used with a rock wool liner to make an almost soundproof wall. Though expensive in itself, it saves man hours and material used in conventional lathing and plastering. When alteration is necessary it is almost 100% salvageable and is easily reassembled in panels. The floor covering is a rugged composition tile which can be removed in spots inexpensively for underfloor work. Office alteration is also made easier by complete underfloor conduit system.

Standard's general service department isn't just concerned with moving. It is responsible for all the company's office housing in New York. It normally handles all communications, telephone, telegraph and mail. It provides the mechanical duplicating service, offset photolithography, photostat, mimeograph, etc., for all departments. It handles office space, leasing and building mantenance. In this respect its activities cover more ground than several of New York's largest realty companies.

It is responsible for selecting and maintaining office furniture and office machines. It also acts as the "hotel clerk" for Esso, since all arrangements for temporary space clear through the general service department.

No Non-Red Pledge, No Contracts, Union Told

Special to NPN

LOS ANGELES—Shell Oil Co. and Shell Development Co. have notified locals 236 and 225 respectively of United Office and Professional Workers of America (CIO) that contracts between the two companies and the union will be cancelled as of June 4, 1948, because the union's local and international officers have failed to file non-Communist affidavits. Local 236 represents refinery employes in Shell Oil's Martinez plant, and Local 225 is bargaining agent for workers in Shell Development's Emeryville laboratories. Cancellation notice will be withdrawn if adffidavits are filed before June 4, Shell Development told the union.

* * *

FORT WORTH—Election to determine the right of International Union of Operating Engineers (AFL) to act as collective bargaining representative for workers of Sunray Oil Corp. employed in West Texas division at Fort Worth has been ordered by the National Labor Relations Board. The board overruled two company protests against the election: (1) that the union has lost strength in the seven months since the election was asked and (2) that the NLRB has no jurisdiction because Sunray is not engaged in interstate commerce.

* * *

WASHINGTON — National Labor Relations Board authorized Local 162 of the International Teamsters (AFL) to negotiate a union shop contract with the Portland Oil Co. at Portland, Ore.

Employes covered by such an agreement may include fuel truck drivers, helpers and yard men. NLRB conferred bargaining powers on union after a majority of the affected workers voted in favor of such action. The local now can ask Portland Oil to require membership in the teamsters as a condition of employment for the drivers, helpers and yard men.

Win Bargaining Rights

WASHINGTON—Under a ruling by the National Labor Relations Board two chemists at Linden, N. J., plant of Cities Service Oil Co. learned that they too are entitled to collective bargaining rights generally extended to the many and that Local 337 of Oil Workers International Union (CIO) will be their bargaining agent. In a formal election under NLRB rules both men voted for representation by OWIU, so that henceforth the company will negotiate with its Linden chemists through Local 337.

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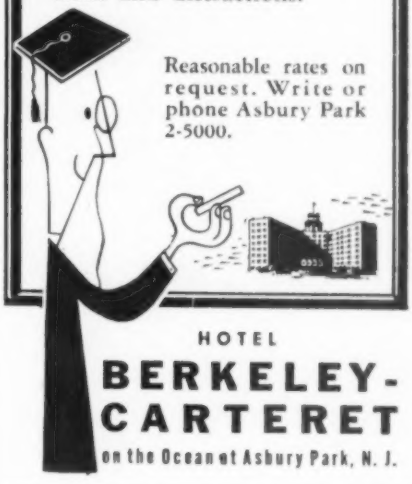

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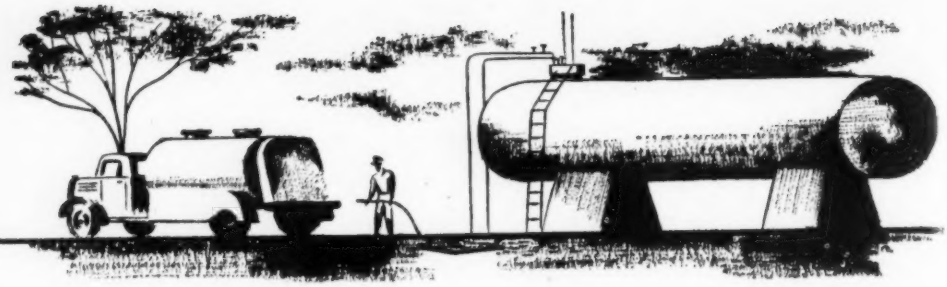

Competition of Chemical Industry For LP-Gas Supplies Seen Lessening

New Jersey Distributor Tells LP-Gas Assn. District Meeting He Foresees Added Supply

By EARL LAMM
NPN Staff Writer

CHICAGO—Chemical manufacturing concerns which, for a time it was felt, might drain off supplies of LP-gas now going (or which might go) to LP-gas distributors for sale in the domestic, farm and industrial markets, now are not as prone to pay the high prices for LP-gas as once was believed likely.

This change in the outlook for distributor supplies of LP-gas has taken place in the past 90 days, according to H. Emmerson Thomas of H. Emmerson Thomas & Associates and Fuelite Natural Gas Corp., Westfield, N. J. Mr. Thomas spoke on the supply situation at the north central district meeting and trade show of Liquefied Petroleum Gas Assn. held here April 1-2. The meeting was attended by more than 500, making it the largest district meeting of LPGA so far held and equal in attendance to some national conventions the association held in the past, according to Howard D. White, executive vice president.

In making his statement on the changed trend of buying LP-gas for chemical uses, Mr. Thomas departed from the prepared text of his address. He added, "We must keep in mind that the possibilities in the chemical field are so great that conceivably they could in time use all of the available LP-gas, provided, of course, they could afford to pay the price to attract the available production for their use rather than its going into other uses such as LP-gas distribution.

"In spite of the industries competing for LP-gas production," he continued, "we also must not forget the constantly increasing load that we, as marketers, are adding, thus causing a greater and greater demand on the producer. During the past two years we have been able to obtain more rapidly containers, regulating equipment and appliances, resulting in an LP-gas load which has increased at a much faster rate than the producers have been able to obtain and install the necessary production equipment."

LP-gas department heads also have their problem of selling top management of their companies on the need for additional capital investment to insure greater production, Mr. Emmerson said.

"As a result of these various things," he said, "we have been tightening the supply situation rather than giving it a chance to level out to a proper ratio between supply and demand."

Looking at the future of supply and demand, the New Jersey distributor said it was difficult to make any reasonably accurate prediction, but now that higher prices are being paid to the producers, economics of the situation have been fairly well taken care of. Producers will not have the same desire to produce LP-gas for other types of uses in preference to distributor marketing, he said, adding, if the price picture should change, distributors may be seriously affected.

(Reports to NPN through its marketing sources show that there now is a surplus of LP-gas and top prices received during the winter heating season now are being shaved by as much as 0.5c to 1c, F.O.B. shipping points in the Midcontinent. This appears to be the usual seasonal trend, but the greatly increased production of propane during the past two years may create storage difficulties for producers unless stocks soon begin moving more rapidly into distribution and consumption channels. Stocks of propane particularly are reported heavy on the Gulf Coast. Stocks of butane likely will be absorbed in the blending of motor fuel needed to meet the heavy spring demand. Producers believe the present surplus of stocks is only temporary because of the in-between winter heating and spring agricultural seasons.)

Seated in the lounge at the Sherman Hotel between sessions at the LPGA meeting are (left to right): E. J. Gustafson, Town & Country Gas Co., Sioux Falls, S. D., district director of LPGA, who chairmanned the meeting; Howard D. White, executive vice president of LPGA; W. A. Schuette, Hausgas, Inc., Washington, Mo., chairman of the marketers forum; and Arthur C. Babson, vice president, Babson's Reports, Inc., Wellesley Hills, Mass., who addressed the meeting on the business outlook

Foresees Greater Supply

Considering the year around problem of supply, Mr. Emmerson predicted that considerable additional quantities of LP-gas will be forthcoming, probably in a quantity which will about keep up with new sales, except during the winter of 1948-49; but that season's supply will depend

a great deal on how severe the winter is, he said.

Transportation appears to be improved, he continued. "I do not believe that there will be any appreciable shortage of tank cars in the future, although additional cars will have to be built to take care of the increased marketed demand."

During the marketers forum conducted by W. A. Schuette, manager of Hausgas, Inc., Washington, Mo., he stated that marketing problems have changed since last year when the industry was having trouble getting ranges, cylinders and other distribution and use equipment.

"Now," he said, "we are confronted with the job of selling. It will be a big problem."

A distributor inquired how a winter-summer supply balance could be obtained in view of the steel shortage. Response was from a Kansas distributor.

"We got very good results from our customers last year when we asked them to install larger bulk storage tanks," he said, "but we had to explain what brought about the winter shortage of fuel. We asked our customers to install tanks of not less than 1,000-gal. capacity."

Kansas distributors did not have much difficulty obtaining the necessary large bulk storage tanks last year and are planning a new promotion program for this season, it was stated.

Safety Movie Planned

The discussion turned toward safety in operations and John Knox Smith, safety director for LPGA, told the distributors that the association is planning a movie to feature proper handling and distribution practices. It will cover all phases of operations from unloading tank cars to product deliveries to customers, he said, and will be loaned to distributors for showing to employes and at dealer meetings.

It was brought out during a discussion of rail freight rates that there is some confusion among the railroads, or lack of clear understanding among LP-gas distributors, as to what rate applies on shipments from the Southwest into classification territory, east of the Mississippi and north of the Ohio. An Indiana distributor said he obtained a refund on a shipment based upon 6.6 lbs. per gallon of LP-gas, which should have been 4.7 lbs., the new weight recently approved by ICC. Others also reported obtaining similar refunds or of having applied for them. One distributor reported receiving a refund from his railroad agent without having asked for it, and in this particular instance, he did not know that it was due him. The difference in the shipping weight of 4.7 lbs. and the former weight of 6.6 lbs. in some instance means a saving of $70 freight on a car of LP-gas, it was stated.

Other speakers on the convention program were Charles Milton Newcomb, Candler, N. C., who spoke on "How to be Happy Though Educated"; J. R. Ozanne, Ozanne & Associates, Chicago, "Learn to Sell Again;" C. R. Crippen, Rapid-Thermogas Co., Des Moines, Iowa, "Safe Practices in Bottle Gas Installation;" Paul Johnson, editor, *Prairie Farmer* magazine, Chicago, "The Rural Market Potential;" Arthur C. Babson, vice president, Babson's Reports, Inc., Wellesley Hills, Mass. Vernon Beals of Beals Creative Printers, Oklahoma City, presented the "LP-Gas Packed Advertising Program." John Pankow, director of sales for Detroit, Michigan Stove Co. reported on progress toward LPGA-AGA cooperation on problems of mutual interest. E. Carl Sorby, vice president, George D. Roper Corp., discussed the "CP" LP-gas range.

Faster Service on LP-Gas Planned in Maine Area

Special to NPN

PORTLAND, ME.—Faster service for distributors of liquefied petroleum gas in Maine and adjoining areas is forecast in an announcement by Socony-Vacuum Oil Co. of plans to construct here a new plant for handling gas cylinders. Heretofore, filled cylinders were shipped into Maine from New York and Philadelphia manufacturing plants.

New plant will be completed early this summer and will have new equipment for handling cylinders, including a pit for steam removal of ice in tanks caused by severity of Maine winters. A capacity of aproximately 100 cylinders a day is expected eventually.

36.8% Sales Increase Shown In Suburban Propane Report

NPN News Bureau

NEW YORK—A sales increase of 36.8% in 1947 by the two-year old Suburban Propane Gas Corp., Whippany, N. J., was shown in the annual report issued by President Mark Anton. Total sales and other income for the period ending Dec. 31, 1947, amounted to $7,772,634.64 as against a 1946 net sales and other income figure of $5,673,614.94.

Net income for 1947 after federal income taxes was $831,339.45 compared with $602,837.06 for 1946, or a net increase of 37.8%. Earnings available for common stock increased 28c a share from $1.02 for 1946 to $1.30 for 1947.

The report showed that as of Dec. 31, 1947 the company absorbed its former subsidiary, Eastern Shore Gas Corp., with which on the same date had been merged Eastern Shore's wholly-owned subsidiary, Crisfield Shorgas Co.

Suburban operates in nine eastern seaboard states distributing propane.

Compromise Rizley-Moore Bill Due in Committee This Week

NPN News Bureau

WASHINGTON — A compromise Rizley-Moore natural gas bill was to be reported this week to the Senate Judiciary Committee by a subcommittee, the measure's sponsors, Rep. Rizley (R., Okla.) and Sen. Moore (R., Okla.), having agreed to some amendments plainly not exactly to their liking in order to enhance chances of enactment in time to help insure adequate gas supplies to consuming areas next winter.

As it now stands, the bill would require the Federal Power Commission to allow, as an expense for rate-making purposes, the field price of all gas bought by a natural gas company from Independent producers, but also permit FPC, within limits, to set a commodity value (for rate fixing) on all gas produced by the natural gas company itself.

Also, the measure is regarded as making it plainer than before that production and gathering, and facilities used in connection therewith, are not to be within the FPC's jurisdiction.

Co-Ops Unfair, Say 82%

NPN News Bureau

CHICAGO—Co-ops are unfair competition to other businesses, according to 82% of the more than 10,000 listeners who sent in ballots following a radio debate on March 2 between Fulton Lewis, Jr., radio commentator, and Jerry Voorhis, former California congressman who is now executive secretary of the Cooperative League of the U. S. A.

The topic was: "Are Co-operatives Unfair Competition to Other Businesses?" The percentages of replies were: affirmative, 82%; negative, 18%.

The huge majority against the co-ops was piled up despite circulars sent to many local co-ops saying: "Write, wire or call the station after the broadcast, and give them your comments. This is voice for the co-operatives and gives us a chance to tell our side of the story."

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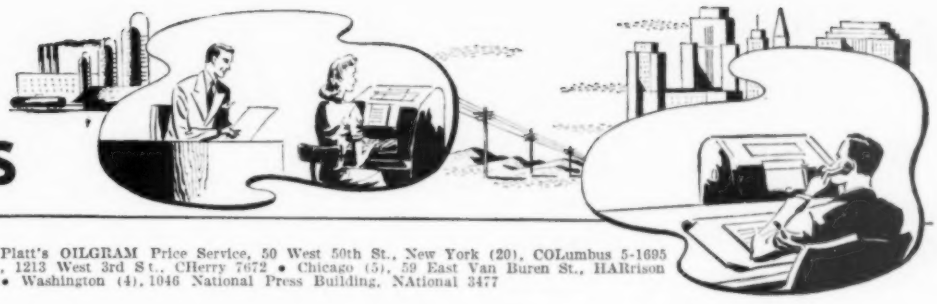
Oil Markets



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Open Market Fuel Prices Decline in Most Areas; Shell Oil Co. Only Major to Meet Esso's 0.7c Discount

Products offerings continued light in most areas east of the Rockies the past week, although open market traders reported prices asked for heating oils and residual fuels showed sharp declines in the Midwest and Gulf refining districts.

Posted prices were generally unchanged in most refining and terminal districts, according to reports of refiners and marketers, and by end of week only one major seller, Shell Oil Co., had announced that it would allow 0.7c discount on heating oil sales at North and Middle Atlantic points following Esso Standard's March 30 action.

Open market prices for bunker "C" fuel at the Gulf continued their downward trend from $3.50 per bbl., highest price reported during mid-winter. Two cargoes were reported offered firm at $2.75 per bbl.; earlier sales reported during March were at $2.90 and $2.95 per bbl. Gulf suppliers continued to post prices ranging upward from $2.46.

Sharp decline in prices for No. 2 fuel from levels of early March was indicated in reports of tank car marketers in the Midwest, and buyers with cars were said to be able for first time this year to obtain No. 2 fuel "in line" with refiners' Group 3 posted quotations which ranged from 9 to 9.25c.

At New York Harbor, large Independent supplier reported that he had reduced his prices for No. 2 and 0-10 pour 5 fuels to 9.8c per gal. and $3.75 per bbl. for the two products, respectively. According to trade sources, No. 2 fuel could be obtained in small lots at New York Harbor at prices considerably lower than earlier this year and ranging from 10.5 11.5c; most harbor suppliers continued to quote 9.3c to barge customers.

When asked whether they intended to allow a similar discount to that granted by Esso and Shell Oil Co., other leading East Coast marketers reported they had as yet come to no decision, and several said they were reluctant to discount their heating oil stocks at this time especially since a portion of their supplies had been bought on the spot market at "high" prices.

• • •

ATLANTIC COAST

Large Independent Reduces Fuel Prices

In one of the first moves toward lower fuel prices along the Atlantic Coast in many months, a large Independent supplier at New York Harbor reported he had cut his barge prices 1.1c to 9.8c per gal. for No. 2 fuel and 65c per bbl. to $3.75 for 0-10 test No. 5 fuel. Other East Coast prices were reported unchanged, although Shell Oil Co., following Esso Standard's lead earlier in the week, announced it would allow 0.7c discount on heating oil sales from April 1 to Sept. 1 at North and Middle Atlantic points where it markets.

Open market offerings of all products continued relatively scarce, and most suppliers said that although kerosine and No. 2 fuel demand was tapering off, they were still supplying old accounts only. Spot gasoline was also said to be especially difficult to obtain.

New York Harbor supplier who reduced his fuel prices said he was no longer dependent on spot market cargoes in addition to his own production. Four recent cargoes of No. 2 fuel which he had bought on open market had cost him 13 to 14c. delivered New York, he said.

At end of week, New York Harbor sellers quoted barge prices for No. 2 fuel ranging from 9.3 to 10c; for 0-10 pour No. 5 oil, from $3.35 to $4.25 per bbl.

Majority of large sellers late in the week said they were unwilling as yet to allow 0.7c discount on kerosine and No. 2 fuel to meet competition of Esso Standard and Shell.

GULF COAST

Easier Price Trend Seen for Some Products

Sellers' market continued at the Gulf the past week, according to reports from the Southwest, as a long list of potential buyers still sought spot cargo offerings without success. At the same time while suppliers' posted prices remained unchanged, a further easing in asking prices for low octane gasoline and bunker "C" fuel were indicated in reports of buyers and other trade sources.

Several East Coast buyers said they had been offered cargo of 70-72 oct. leaded gasoline at 11c, and another at 11.25c; offerings of this grade of gasoline earlier in the year were priced as high as 13c.

Bunker "C" fuel prices to spot buyers continued downward from the highs of $3.50 per bbl. reported during mid-winter. One sale at $2.95 was reported, and two cargoes were subsequently offered firm at $2.75 per bbl.

OIL MARKETS

Summary of Daily Gasoline Prices (Mar. 30 through Apr. 5)

U. S. Motor (ASTM octane)	Monday April 5	Friday April 2	Thursday April 1	Wednesday Mar. 31	Tuesday Mar. 30
78-78.5 octane (Premium):					
Oklahoma (Group 3)	(2)11.25–13.25(1)	(2)11.25–13.25(1)	(2)11.25–13.25(1)	(2)11.25–13.25(1)	(2)11.25–13.25(1)
Mid-Western (Group 3 basis)	(2)11.25–12(1)	(2)11.25–12(1)	(2)11.25–12(1)	(2)11.25–12(1)	(2)11.25–12(1)
N. Tex. (For shpt. to Tex. & N.M. dest'ns)	(1)11.7–13.3(1)	(1)11.7–13.3(1)	(1)11.7–13.3(1)	(1)11.7–13.3(1)	(1)11.7–13.3(1)
W. Tex. (For shpt. to Tex. & N.M. dest'ns)	(3)11.5–11.75(1)	(3)11.5–11.75(1)	(3)11.5–11.75(1)	(3)11.5–11.75(1)	(3)11.5–11.75(1)
E. Tex. (Truck Tnsp.)	(2)11.5–12(1)	(2)11.5–12(1)	(2)11.5–12(1)	(2)11.5–12(1)	(2)11.5–12(1)
Cent. W. Tex. (Truck Tnsp.)	11.5(3)	11.5(3)	11.5(3)	11.5(3)	11.5(3)
73-75 octane (Regular):					
Oklahoma (Group 3)	(5)10.5–12.25(1)	(5)10.5–12.25(1)	(5)10.5–12.25(1)	(5)10.5–12.25(1)	(5)10.5–12.25(1)
Mid-Western (Group 3 basis)	(4)10.5–10.75(1)	(4)10.5–10.75(2)	(4)10.5–10.75(2)	(4)10.5–10.75(2)	(4)10.5–10.75(2)
N. Tex. (For shpt. to Tex. & N.M. dest'ns)	(1)10.7–12(1)	(1)10.7–12(1)	(1)10.7–12(1)	(1)10.7–12(1)	(1)10.7–12(1)
W. Tex. (For shpt. to Tex. & N.M. dest'ns)	(3)10.5–10.75(1)	(3)10.5–10.75(1)	(3)10.5–10.75(1)	(3)10.5–10.75(1)	(3)10.5–10.75(1)
E. Tex. (Truck Tnsp.)	(2)10.5–11(1)	(2)10.5–11(1)	(2)10.5–11(1)	(2)10.5–11(1)	(2)10.5–11(1)
Cent. W. Tex. (Truck Tnsp.)	10.5(3)	10.5(3)	10.5(3)	10.5(3)	10.5(3)
63-66 octane:					
Oklahoma (Group 3)	....	....	....	....	....
Mid-Western (Group 3 basis)	10.125(1)	10.125(1)	10.125(1)	10.125(1)	10.125(1)
N. Tex. (For shpt. to Tex. & N.M. dest'ns)	....	....	....	....	....
W. Tex. (For shpt. to Tex. & N.M. dest'ns)	(1)10–10.25(1)	(1)10–10.25(1)	(1)10–10.25(1)	(1)10–10.25(1)	(1)10–10.25(1)
E. Tex. (Truck Tnsp.)	....	....	....	....	....
Cent. W. Tex. (Truck Tnsp.)	10(1)	10(1)	10(1)	10(1)	10(1)
60 octane & below:					
Oklahoma (Group 3)	(1)9.75–10.125(2)	(1)9.75–10.125(2)	(1)9.75–10.125(2)	(1)9.75–10.125(2)	(1)9.75–10.125(2)
Mid-Western (Group 3 basis)	(1)9.75–10.375(1)	(1)9.75–10.375(1)	(1)9.75–10.375(1)	(1)9.75–10.375(1)	(1)9.75–10.375(1)
N. Tex. (For shpt. to Tex. & N.M. dest'ns)	(2)10–10.3(1)	(2)10–10.3(1)	(2)10–10.3(1)	(2)10–10.3(1)	(2)10–10.3(1)
W. Tex. (For shpt. to Tex. & N.M. dest'ns)	(2)9.75–10(1)	(2)9.75–10(1)	(2)9.75–10(1)	(2)9.75–10(1)	(2)9.75–10(1)
E. Tex. (Truck Tnsp.)	(2)9.75–10.25(1)	(2)9.75–10.25(1)	(3)9.75–10(3)	(3)9.75–10(3)	(3)9.75–10(3)
Cent. W. Tex. (Truck Tnsp.)	(2)9.75–10(1)	(2)9.75–10(1)	(2)9.75–10(1)	(2)9.75–10(1)	(2)9.75–10(1)
Motor Gasoline, 78-78.5 oct. (Premium) (b)					
New York harbor	(1)11.5–13.4(1)	(1)11.5–13.4(1)	(1)11.5–13.4(1)	(1)11.5–13.4(1)	(1)11.5–13.4(1)
New York harbor, barges	(1)11.4–12.1(2)	(1)11.4–12.1(2)	(1)11.4–12.1(2)	(1)11.4–12.1(2)	(1)11.4–12.1(2)
Philadelphia	(1)12.15–13.15(1)	(1)12.15–13.15(1)	(1)12.15–13.15(1)	(1)12.15–13.15(1)	(1)12.15–13.15(1)
Philadelphia, barges	(1)12.05–12.8(1)	(1)12.05–12.8(1)	(1)12.05–12.8(1)	(1)12.05–12.8(1)	(1)12.05–12.8(1)
Baltimore	(1)11–12.3(1)	(1)11–12.3(1)	(1)11–12.3(1)	(1)11–12.3(1)	(1)11–12.3(1)
Baltimore, barges	10.9(1)	10.9(1)	10.9(1)	10.9(1)	10.9(1)
Motor Gasoline 78-78.5 oct. (Premium) (c)					
New York harbor	....	....	....	....	....
New York harbor, barges	....	....	....	....	....
Philadelphia	(1)12.15–12.4(1)	(1)12.15–12.4(1)	(1)12.15–12.4(1)	(1)12.15–12.4(1)	(1)12.15–12.4(1)
Philadelphia, barges	12.05(1)	12.05(1)	12.05(1)	12.05(1)	12.05(1)
Baltimore	(1)11.75–12.2(1)	(1)11.75–12.2(1)	(1)11.75–12.2(1)	(1)11.75–12.2(1)	(1)11.75–12.2(1)
Baltimore, barges	11.65(1)	11.65(1)	11.65(1)	11.65(1)	11.65(1)
Motor Gasoline 74-76 oct. (Regular) (b)					
New York harbor	(1)10.5–12(1)	(1)10.5–12(1)	(1)10.5–12(1)	(1)10.5–12(1)	(1)10.5–12(1)
New York harbor, barges	(1)10.4–11.9(1)	(1)10.4–11.9(1)	(1)10.4–11.9(1)	(1)10.4–11.9(1)	(1)10.4–11.9(1)
Philadelphia	(1)10.9–11.9(4)	(1)10.9–11.9(4)	(1)10.9–11.9(4)	(1)10.9–11.9(4)	(1)10.9–11.9(4)
Philadelphia, barges	(1)10.8–11.8(1)	(1)10.8–11.8(1)	(1)10.8–11.8(1)	(1)10.8–11.8(1)	(1)10.8–11.8(1)
Baltimore	(1)10–11.8(1)	(1)10–11.8(1)	(1)10–11.8(1)	(1)10–11.8(1)	(1)10–11.8(1)
Baltimore, barges	(1)9.9–10.4(1)	(1)9.9–10.4(1)	(1)9.9–10.4(1)	(1)9.9–10.4(1)	(1)9.9–10.4(1)
Motor Gasoline:					
Western Penna., Bradford-Warren:					
74-76 Oct. (Regular)	11.5(2)	11.5(2)	11.5(2)	11.5(2)	11.5(2)
Western Penna., Other Districts:					
74-76 Oct. (Regular)	(2)11.5–12(4)	(3)11.5–12(3)	(3)11.5–12(3)	(3)11.5–12(3)	(3)11.5–12(3)

Note: Gasoline prices are reported in each day's Platt's OILGRAM Daily Price Service. Figures shown in parentheses indicate number of companies quoting the lows & highs of the ranges.
(b) Research octane rating is minimum of 5 points above Motor Method rating.
(c) Research octane rating is minimum of 10 points above Motor Method rating.

Late in the week, however, an offer to pay $2.70 had been in the market for several days with no takers, it was said.

In general, however, tight supply status for most products has reflected in low ebb of spot trading, trade sources said. Most sellers said they still were not making offerings generally, and buyers complained that the few offerings they could obtain would represent large losses if resold in competition with East Coast and Midwest markets.

Up-river inquiry for gasoline continued heavy, also for barge transportation, according to reports. Foreign inquiries were appearing with greater frequency, some sellers said. Italian, French, and British buying interest was reported leaning to gas oil, bunker "C" fuel, and "any kind of crude oil available."

MIDCONTINENT

Gasoline Demand Rises; Offerings Scarce

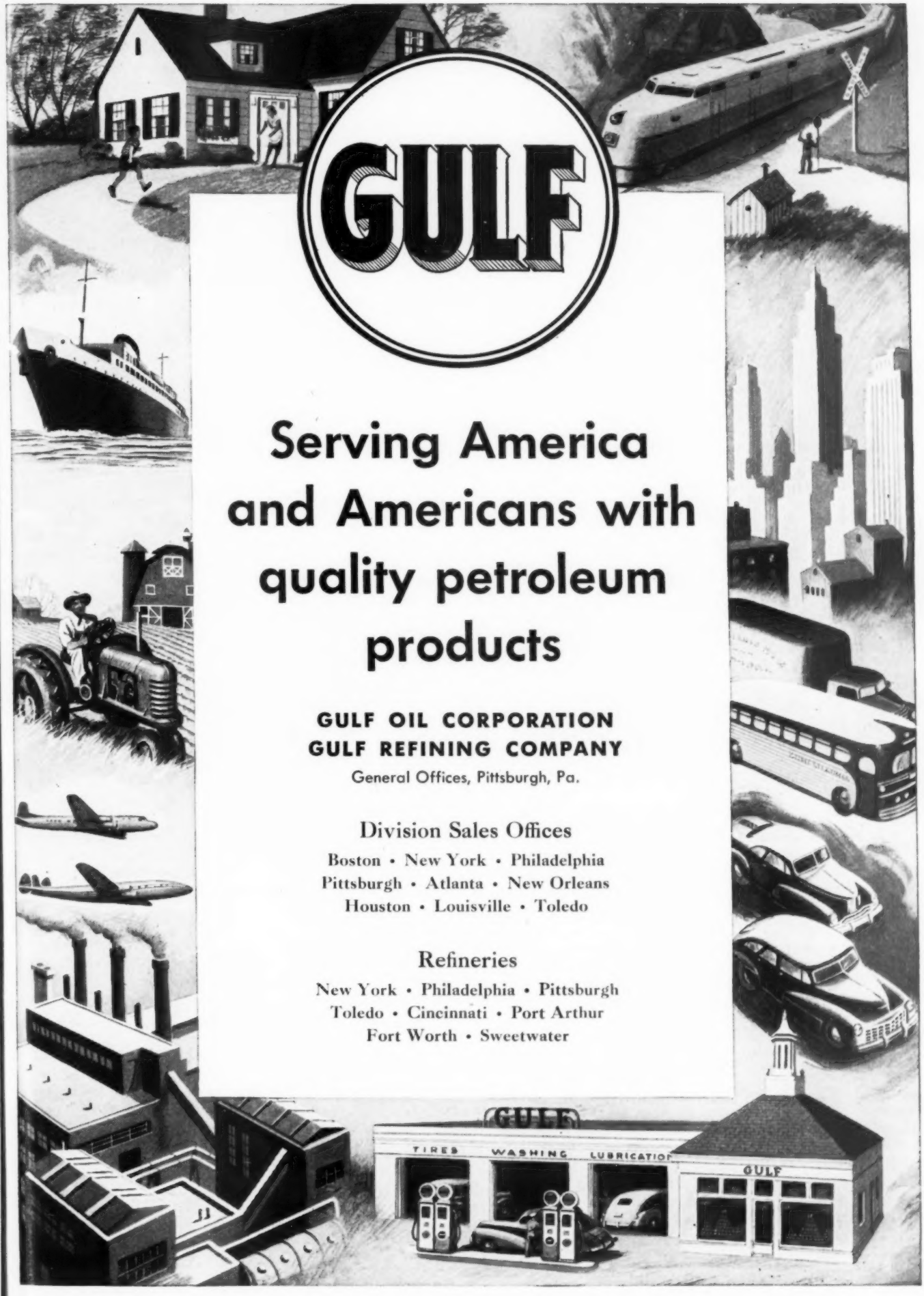
Steady increase in demand for gasoline and tractor fuel was reported in the Midcontinent the past week although bad weather in some northern areas continued to hold back an expected avalanche of spring orders. The call for kerosine remained heavy while inquiry for distillates and heavy fuels diminished considerably, according to reports. Posted prices of most refiners were reported unchanged.

Return of tank cars generally has improved considerably although posting of roads due to thaws in northern states, particularly South Dakota, Minnesota, and Iowa, has curtailed truck traffic and thrown heavier load on rail transportation, refiners said.

Offerings of most products remained scarce and premiums (above refiners' postings) continued to be asked from the occasional buyer. One Midcontinent marketer said gasoline was available only in buyers' cars and then only at "premiums of 1.25c or more" above refiners' postings. An East Texas refiner reported offers to buy from Midwest jobbers at 2c above his own posted price (10.75c) for regular-grade gasoline, buyers' cars, but added he was selling to his regular customers only.

Further easing of heavy fuel was reported by an Oklahoma refiner who said he had cut his prices 25c to $2.65 per bbl. for 2% sulfur No. 6 oil, and 35c to $2.90 per bbl. for oil with 1% sulfur. Postings for No. 6 fuel reported by other Oklahoma refiners were unchanged, ranging from $2.50 to $3.20.

Kansas refiner reported selling 2,800-gal. transport load of 42-44 kerosine at 10c to a jobber in the state. A Central West Texas refiner disclosed sales of five cars of UGI gas oil at 9.5c, and three cars of 58 and above Diesel at 10c, buyer's cars, FOB plant to Midwest brokers.



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OIL MARKETS

WESTERN PENNA.

Less Active Inquiry Reported for Lubes

Inquiry for lubes and wax from foreign buyers had slackened considerably, according to Western Penna. refiners the past week, and some said domestic orders were coming in more slowly for neutrals and bright stock. Cylinder stocks, however, continued in strong demand, according to reports.

Short supply status on most light products was unchanged, refiners said, and majority reported their prices for all products unchanged.

While inquiry for lubes was reported light, open market prices for neutrals and bright stock continued relatively firm, refiners said. One refiner who had been quoting 45c for 25 p.t. bright stock reported advancing his price to 46.5c; that price, he said, more nearly represented what he would have to pay to obtain product over and above his own production. Other refiners continued to quote bright stock prices ranging from 44 to 49c.

Spring and warmer weather served to reduce home heating demand for light fuels, but industrial and farm demand easily absorbed any surplus that otherwise might have resulted, according to reports. Gasoline and Stoddard solvent especially were short, refiners said.

Refiners who had cited the slackened inquiry for neutrals and bright stock generally said fundamental lube market position continued strong. Trade sources said refiners have emphasized bright stock production recently in order to be prepared for sizeable foreign orders —which to date have not materialized—when ERP money becomes available. In addition, some let-up in demand for branded oil was reflected in reduced calls for lubes, but jobbers were said to be only temporarily stocked up.

On other hand, majority of refiners continued to report they had orders on their books which would require their capacity output for some time to come.

CENTRAL MICHIGAN

Shortage of Tractor Fuel Feared

Likelihood of a shortage of tractor fuel in this important agricultural state, unless shipments from outside the state are stepped up substantially, was indicated in reports of some Central Michigan refiners the past week.

With refiners still unable to obtain enough crude to run at capacity, production of tractor fuel at Michigan plants has been sacrificed in an effort to maximize gasoline output, refiners said.

One refiner said he had discontinued making tractor fuel entirely. Two others said they were making only small amounts.

Prices for all products were reported unchanged the past week, and refiners generally said they were offering only to customers of long standing.

Straight-run gasoline was reported equally as tight as premium and regular grades by most refiners, although one said he had made a spot sale of two cars at 12.625c, FOB refinery. Quotations for straight run reported by other refiners ranged from 11.625c to 12.75c.

Small lots of light fuels said to have been purchased at "high prices in other refining districts earlier this year" were reported finding their way to the open market. One such offering reported the past week was five cars of kerosine offered at 14c, FOB the Detroit area.

Heavy industries were inquiring for supplies of residual fuel for standby equipment in the event coal piles give out before the miners' strike is settled, but few spot sales were reported due to scarcity of offerings. Most refiners said they have been on a daily production basis on heavy fuels for some time and new demand would have to be met by out-of-state refiners. One refiner, however, said he had stretched his production of No. 6 oil to include a buyer already forced to change over to oil burning equipment.

MIDWESTERN (Chicago-E. St. Louis Area)

Tank Cars Remain Key to Spot Prices

Ability of the buyer to furnish tank cars remained the key to prices for gasoline, and reduced prices indicated for light fuels, according to reports of open market traders in the Midwest the past week. Rising trend was reported for gasoline, while in some instances light fuels were said to be available to buyers with cars at prices "In line, or almost in line" with refiners' Group 3 postings for the first time in several months.

Spot offerings of regular-grade gasoline were reported late in the week at 11.25 to 11.75c, FOB Houston area and North Texas, up 0.25c per gal. from prices reported from those areas early in the week. Likewise, offerings in seller's cars advanced from reported low of 12c, to 12.5c with some refiners asking up to 13.25c. Refiners' Group 3 postings were reported unchanged, ranging from 10.5 to 10.75c for regular grade.

Buying interest in spot gasoline remained dull, however, because of well-filled jobber storage and the fact that present prices in the Southwest plus freight were not competitive with tank wagon prices in the Midwest, traders said. Farm consumption lagged with rains keeping farmers from their fields, it was said.

Lowest spot offering of No. 2 fuel was reported by a tank car marketer at 9.25c, Group 3, buyers' cars. Other said the product was available in seller's cars at 10c, Group 3 and North Texas. In mid-March, spot prices for No. 2 had ranged from 10.5 to 12.75c, Group 3 basis. Group 3 posted prices reported by refiners were unchanged ranging from 9 to 9.25c.

Kerosine, scarcest of the distillate fuels for six months or more, was reported available at 11c, seller's cars, FOB Houston, and at 10.25 to 10.5c in buyer's cars. One marketer reported paying 11c, Group 3, for "some kerosine, already rolling." At current levels, marketers said spot kerosine prices were 5.5 to 6c under top winter postings. Refiners' Group 3 prices were unchanged, ranging from 9.375 to 9.625c for 41-43, and 9.5 to 9.875c for 42-44.

Heavy fuels were described as "unsettled", with prices for low sulfer No. 6 oil varying as much as 25c per bbl. A marketer reported a 10-car purchase at $2.60 per bbl. A refiner quoting $2.75 per bbl., Group 3, to regular customers, reported making a spot sale of three cars at $2.85. Group 3 postings were reported by refiners ranging from $2.50 to $2.75.

Crude Prices

Posted prices unchanged in all fields. See March 31 NPN, p. 56, 57 for complete schedules.

MEN OF PETROLEUM..

RESEARCH EXPERT... He is the scientist, the creator, the trained mind behind every scientific advancement... the man who has developed more than 5,000 valuable products from a single commodity: petroleum. He has perfected synthetic ether for hospitals... oil that lubricates for thousands of hours... asphalt for better highways... sprays to protect the farmers' produce and *your* food... food preservatives and detergents for household cleaning... spectacular new improvements for metal-cutting, electronic, automotive and aviation industries. He works with the latest scientific equipment in the most modern research laboratories—today's workshops for tomorrow's new technological age.

STANDARD OIL COMPANY OF CALIFORNIA

OIL PRICE SECTION

At Refineries and Terminals and by Tank Wagon

Prices herewith are reproduced from Platt's *OILGRAM* Daily Oil Price Service, associated with National Petroleum News, whose representatives in all *NPN-OILGRAM* offices devote their time exclusively to reporting oil industry prices everywhere.

Prices shown in tables are sales prices or quotations or general offers or posted prices by refiners, by pipeline terminal operators, and by tanker terminal operators; for current sales and shipments; for the business day or period stated; except Tank Wagon prices, prices are for bulk lots such as tank car, truck transport, barge; prices applying to barges or cargoes or truck transport lots only, so designated; FOB refineries terminals; in cents per gal., except per bbl. where $ sign is shown; wax and petroiatums in cents per pound; ex all fees and taxes; for crude oil and its products lawfully produced and transported; reported as received by *OILGRAM* and National Petroleum News but not guaranteed; for subscribers' private use only and not for resale or distribution or publication. Octane ratings are ASTM unless otherwise noted. Parenthetical figures before and after prices indicate number of companies quoting the lows and highs of the ranges. For further details of price conditions apply to any *NPN—OILGRAM* office or see back of any *OILGRAM* Price Service invoice.

For complete price service delivered daily from nearest OILGRAM publishing office, New York, Cleveland and Tulsa, address Platt's Price Service, Inc., 1213 West 3rd St., Cleveland (13), Ohio. Annual subscription rate in U. S.: $125 per year, payable in advance.

Refinery & Terminal Prices

Gasoline

SPECIAL NOTICE

Owing to present short supply of many products, some sellers are withholding public quotations or the posting of firm prices on some products but are giving OILGRAM the prices they otherwise would quote to trade in general and which today they confine mostly to their regular customers only.

Prices in Effect	April 5	Mar. 29
OKLAHOMA (Group 3)		
78-78.5 Oct. (Prem.)	(2)11.25-13.25(1)	(2)11.25-13.25(1)
73-75 Oct.Reg.	(5)10.5–12.25(1)	(5)10.5–12.25(1)
63-66 Oct.	....	....
60 Oct.& below	(1)9.75-10.125(2)	(1)9.75-10.125(2)
MID-WESTERN (Group 3 basis)		
78-78.5 Oct. (Prem.)	(2)11.25–12(1)	(2)11.25–12(1)
73-75 Oct.Reg.	(4)10.5-10.75(2)	(4)10.5-10.75(2)
63-66 Oct.	10.125(1)	10.125(1)
60 Oct.& below	(1)9.75-10.375(1)	(1)9.75-10.375(1)
CHICAGO—(FOB Chicago district refineries & p.l. terminals)		
78-78.5 Oct. (Prem.)	....	....
74-76 Oct.	....	....
N. TEX. (For shpt. to Tex & N.M. dest'ns.)		
78-78.5 Oct. (Prem.)	(1)11.7–13.3(1)	(1)11.7–13.3(1)
73-75 Oct.(Reg.)	(1)10.7–12(1)	(1)10.7–12(1)
63-66 Oct.	....	....
60 Oct.& below	(2)10–10.3(1)	(2)10–10.3(1)
W. TEX. (For shpt. to Tex. & N.M. dest'ns.)		
78-78.5 Oct. (Prem.)	(3)11.5–11.75(1)	(3)11.5–11.75(1)
73-75 Oct.Reg.	(3)10.5-10.75(1)	(3)10.5-10.75(1)
63-66 Oct.	(1)10–10.25(1)	(1)10–10.25(1)
60 Oct.& below	(2)9.75–10(1)	(2)9.75–10(1)
E. TEX. (Truck tnspt.)		
78-78.5 Oct.	(2)11.5–12(1)	(2)11.5–12(1)
73-75 Oct.	(2)10.5–11(1)	(2)10.5–11(1)
60 Oct.& below	(2)9.75–10.25(1)	(3)9.75–10(3)
CENT. W. TEX. (Truck Tnspt.)		
78-78.5 Oct. (Prem.)	11.5(3)	11.5(3)
73-75 Oct.(Reg.)	10.5(3)	10.5(3)
63-66 Oct.	10(1)	10(1)
60 Oct.& below	(2)9.75–10(1)	(2)9.75–10(1)
KANSAS (For Kansas destinations only)		
78-78.5 Oct. (Prem.)	(1)11.75–12.5(2)	(1)11.75–12.5(2)
73-75 Oct.Reg.	(1)10.75–11.5(2)	(1)10.75–11.5(2)
63-66 Oct.	....	....
60 Oct.& below	(1)10–10.75(1)	(1)10–10.75(1)
ARK. (For shipment to Ark. & La.)		
78-78.5 Oct. (Prem.)	11.75(1)	11.75(1)
73-75 Oct.Reg.	10.75(1)	10.75(1)
60 Oct.& below, unleaded	10(1)	10(1)
WESTERN PENNA.		
Bradford-Warren:		
74-76 Oct.Reg.	11 5(2)	11.5(2)
Other districts:		
74-76 Oct.Reg.	(2)11.5–12(4)	(3)11.5–12(3)
CENTRAL MICHIGAN (FOB Central Michigan refineries.)		
U.S. Motor: 78-78.5 Oct. (Prem.)	(1)13.55–15(1)	(1)13.55–15(1)
73-75 Oct.Reg.	(1)12.8–15.5(1)	(1)12.8–15.5(1)
Detroit shpt.	(1)11.625-12.75(1)	(1)11.625-12.75(1)
Str. run gasoline, excl.		
46-49 w.w. kero.	(1)11.875-13.5(2)	(1)11.875-13.5(2)
P.W. distillate	(2)12.25-14.75(1)	(2)12.25-14.75(1)
No. 2 light straw	(1)11.125–12.5(1)	(1)11.125–12.5(1)
No. 3 straw.	(1)10.875–12(3)	(1)10.875–12(3)
U.G.I. gas oil	(1)10.5–11(1)	(1)10.5–11(1)
No. 5 fuel.	(1)9.8–11.5(1)	(1)9.8–11.5(1)
No. 6 fuel.	(1)9–10.5(1)	(1)9–10.5(1)
OHIO (S. O. Ohio quotations for statewide delivery)		
Kerosine	12.9	12.9
CALIFORNIA		
San Joaquin Valley:		
40-43 w.w.	12.4(1)	12.4(1)
Heavy fuel	$2.20(1)	$2.20(1)
Light fuel (PS 300)	2.40(1)	2.40(1)
Diesel fuel (PS 200)	9.3(1)	9.3(1)
Stove dist. (PS 100)	10.8(1)	10.8(1)
Los Angeles:		
40-43 w.w.	(1)11.15–12.9(3)	(1)11.15–12.9(3)
Heavy fuel (PS 400)	(1)$2.10–2.15(4)	(1)$2.10–2.15(4)
Light fuel (PS 300)	$2.35(5)	$2.35(5)
Diesel Fuel (PS 200)	(1)7.85–9.1(1)	(1)7.85–9.1(1)
Stove dist. (PS 100)	(1)8.85–10.6(1)	(1)8.85–10.6(1)
San Francisco:		
40-43 w.w.	(1)12.4–13.4(1)	(1)12.4–13.4(1)
Heavy fuel (PS 400)	$2.20(2)	$2.20(2)
Light fuel (PS 300)	$2.40(2)	$2.40(2)
Diesel fuel (PS 200)	(1)9.3–9.6(1)	(1)9.3–9.6(1)
Stove dist. (PS 100)	(1)10.8–11.1(1)	(1)10.8–11.1(1)

Kerosine, Gas & Fuel Oils

Prices in Effect	April 5	Mar. 29
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances.) 73-75 Oct.	14.75	14.75
CALIFORNIA		
Los Angeles dist.:		
80-82 Oct. (Prem.)	(1)13.9–14.65(1)	(1)13.9–14.65(1)
74-76 Oct. (Reg.)	(1)11.4–13.6(1)	(1)11.4–13.6(1)
San Fran. dist.:		
80-82 Oct. (Prem.)	(1)14.4–15.15(1)	(1)14.4–15.15(1)
74-76 Oct. (Reg.)	(1)11.9–13.65(1)	(1)11.9–13.65(1)
San Joaquin Valley:		
80-82 Oct (Prem.)	15.15(1)	15.15(1)
74-76 Oct. (Reg.)	13.65(1)	13.65(1)
OKLAHOMA (Group 3)		
41-43 w.w. kero.	(1)9.5–9.625(3)	(1)9.5–9.625(3)
42-44 w.w.	(2)9.5–10(1)	(2)9.5–10(1)
Range oil	(1)9.375–9.75(1)	(1)9.375–9.75(1)
58 & above D.I. diesel	(1)9.25-10.125(1)	(1)9.25-10.125(1)
No. 1 p.w.	(1)9.125-9.625(1)	(1)9.125-9.625(1)
No. 1 straw.	9.375(2)	9.375(2)
No. 2 straw.	(2)9–12(1)	(2)9–12.25(1)
No. 3	9.125(2)	9.125(2)
No. 6	(1)$2.50–3.20(1)	(1)$2.50–3.25(1)
14-16 grav. fuel	$2.62(1)	$2.62(1)
MIDWESTERN (Group 3 basis)		
41-43 w.w.	(1)9.375-9.625(3)	(1)9.375-9.625(3)
42-44 w.w.	(2)9.5–9.875(1)	(2)9.5–9.875(1)
Range oil	(1)9.375–9.5(2)	(1)9.375–9.5(2)
58 & abv. D.I. diesel	(1)9.5–10.125(1)	(1)9.5–10.125(1)
No. 1 p.w.	(2)9.125-9.375(2)	(2)9.125-9.375(2)
No. 2 straw.	(2)9–9.25(1)	(2)9–9.25(1)
No. 3	(1)8.75–9.125(1)	(1)8.75–9.125(1)
No. 6	(1)$2.50–2.75(2)	(1)$2.50–2.75(2)
CHICAGO—(FOB Chicago district refineries & p.l. terminals; all fuel oil prices in cnt. per gal.)		
58 & above D.I. diesel.	11.05(1)	11.05(1)
No. 5 fuel.	....	....
No. 6 fuel.	7.4(1)	7.4(1)
N. TEX. (For shpt. to Tex. & N.M. dest'ns.)		
41-43 w.w.	(1)9.6–9.625(1)	(1)9.6–9.625(1)
42-44 w.w.	(1)10–10.75(1)	(1)10–10.75(1)
58 D.I.	(1)9.4–10(1)	(1)9.4–10(1)
No. 2 straw.	....	....
No. 6 fuel.	(1)$2.50–2.62(1)	(1)$2.50–2.62(1)
W. TEX. (For shpt. to Tex. & N.M. dest'ns.)		
41-43 w.w.	9.5(1)	9.5(1)
42-44 w.w.	10.5(1)	10.5(1)
No. 1 straw.	9.25(1)	9.25(1)
No. 2 straw.	(2)9–9.25(2)	(2)9–9.25(2)
No. 3	8.75(1)	8.75(1)
No. 6 fuel.	$2.90(2)	$2.90(2)
E. TEX. (Truck trnspt.)		
41-43 w.w.	(2)9.25–9.5(2)	(1)9–9.5(1)
42-44 w.w.	(2)9.5–9.75(1)	(2)9.5–9.75(1)
58 & abv. D.I. diesel	(1)9–9.75(1)	(1)9–9.75(1)
U.G.I. gas oil	8.25(1)	8.25(1)
No. 2 fuel.	9.25(1)	9.25(1)
No. 6 fuel.	(1)$2.50–2.85(1)	(1)$2.50–2.85(1)
CENT. W. TEX. (Truck trnspt.)		
41-43 w.w.	(1)9.375–9.5(1)	(1)9.375–9.5(1)
52 & bel. D.I. Diesel	(1)9–9.125(1)	(1)9–9.125(1)
58 & abv. D.I. Diesel	9(1)	9(1)
U.G.I. gas oil	8.5(1)	8.5(1)
No. 1 fuel.	9.25(1)	9.25(1)
No. 2 fuel.	9(2)	9(2)
No. 3 fuel.	8.75(1)	8.75(1)
No. 6 fuel.	(1)$2.50–2.67(1)	(1)$2.50–2.67(1)
KANSAS (For Kansas destinations only)		
42-44 w.w.	(1)9.8–10.5(1)	(1)9.8–10.5(1)
58 & abv. D.I. Diesel	(1)9.75–10.25(1)	(1)9.75–10.25(1)
No. 1 fuel.	(2)9.5–10.25(1)	(2)9.5–10.25(1)
No. 2 fuel.	(2)9.25–10(2)	(2)9.25–10(2)
No. 6 fuel.	(1)$2.75–2.96(1)	(1)$2.75–2.96(1)
ARK. (For shipment to Ark. and La.)		
42-44 w.w.	9.625(1)	9.625(1)
Tractor fuel.	10(1)	10(1)
Diesel fuel 52 & below	9.25(1)	9.25(1)
Diesel fuel 58 & above	9.5(1)	9.5(1)
No. 2 fuel.	9.125(1)	9.125(1)
No. 3 fuel.	8.875(1)	8.875(1)
WESTERN PENNA.		
Bradford-Warren:		
45 w.w.	(1)11.25–12(1)	(1)11.25–12(1)
No. 1 fuel.	11.95(1)	11.95(1)
No. 2 fuel.	(1)11–11.95(1)	(1)11–11.95(1)
No. 3 fuel.	11(1)	11(1)
36-40 gravity	11.95(1)	11.95(1)
Other districts:		
45 w.w.	(2)11.25–13(1)	(2)11.25–13(1)
47 w.w.	(1)12.5–13(2)	(1)12.5–13(2)
No. 1 fuel.	(1)11.25–13(1)	(1)11.25–13(1)
No. 2 fuel.	(2)11–13(1)	(2)11–13(1)
No. 3 fuel.	(1)11–12.5(1)	(1)11–12.5(1)
36-40 gravity	(2)11–13(1)	(2)11–13(1)
CENTRAL MICHIGAN (FOB Central Michigan refineries.)		
Range oil	(1)11.625–13(2)	(1)11.625–13(2)

Lubricating Oils

WESTERN PENNA.
Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

VISCOUS NEUTRALS—No. 3 col. Vis. at 70° F.

290 Vis. (180 at 100°) 420-425 fl.	
0 p.t.	47(1)
10 p.t.	46(1)
15 p.t.	45(1)
25 p.t.	(1)40–43(2)
0 p.t.	45(1)
10 p.t.	44(1)
15 p.t.	43(1)
25 p.t.	(1)39–41(1)
CYLINDER STOCKS:	
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No 8 col.	
10 p.t.	49(1)
15 p.t.	48(1)
25 p.t.	(1)44–49(1)
600 S.R. filter'bl.	(3)36–37(1)
650 S.R.	(3)37–38(1)
600 fl.	39(3)
630 fl.	41(2)
MID-CONTINENT	
Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)	
Pale Oils	
Vis. Color	
60-85—No. 2.	(1)12.5–13(1)
86-110—No. 2	(1)13–13.25(2)
150—No. 3.	(2)20–20.5(1)
180—No. 3.	(1)20.5–21(3)
200—No. 3.	(3)21–21.5(1)
250—No. 3.	(2)22–22.5(2)
280—No. 3.	(2)23–23.5(2)
300—No. 3.	24(3)
Red Oils:	
200—No. 5.	21(2)
300—No. 5.	24(1)
Bright Stock—Vis. at 210° (FOB Tulsa basis)	
200 Vis. D.	37(1)
150-160 Vis. D:	
0 to 10 p.p.	33(4)
10-25 p.p.	32.5(1)
25-40 p.p.	....
150-160 Vis. E	32(1)
120 Vis. D:	
0 to 10 p.p.	32(4)
600 S.R. (Olive Green)	23(2)
Black Oil	18.5(1)
SOUTH TEXAS (Neutral Oils)	
Pale Oils (Vis. at 100° F. FOB refineries, for domestic shpt.)	
Vis. Color	
100 1½-2½	(1)9.5–12(1)
200 No. 2-3.	(2)12–14.5(1)
300 No. 2-3.	(2)13–15.25(1)
500 No. 2½-3½	(2)14–16.5(1)
750 No. 3-4.	(1)15–17.25(2)
1200 No. 3-4.	(2)16–17.75(1)
2000 No. 4.	(1)17–21(1)
Red Oils:	
100 No. 5-6.	(1)9.5–12(1)
200 No. 5-6.	(2)12–14.5(1)
300 No. 5-6.	(2)13–15.25(1)
500 No. 5-6.	(2)14–16.5(1)
750 No. 5-6.	(1)15–17.25(2)
1200 No. 5-6.	(2)16–17.75(1)
2000 No. 5-6.	(2)17–21(1)

(Continued on next page)

Oil Price Section

Refinery & Terminal Prices (Cont.)

Prices in Effect	April 5	Mar. 29
CHICAGO (From Mid-Continent p.l. crude)		
Neutral oils vis. at 100° F. 0 to 10 p.p		
Pale Oils:		
Vis. Color		
60-85—No. 2.	13.75(1)	13.75(1)
86-100—No. 2	14.25(1)	14.25(1)
150—No. 3..	21.5(1)	21.5(1)
180—No. 3..	22(1)	22(1)
200—No. 3..	22(1)	22(1)
250—No. 2..	23(1)	23(1)
Red Oils:		
180—No. 5..	22(1)	22(1)
200—No. 5..	22(1)	22(1)
250—No. 5..	23(1)	23(1)
280—No. 5..	24(1)	24(1)
300—No. 5..	24.5(1)	24.5(1)
Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p. 0.25c lower.		
Unfiltered Steam Refined (Viscosity at 210°)		
140	22.5(1)	22.5(1)
160	23.5(1)	23.5(1)
200	24.5(1)	24.5(1)
Bright Stocks, 160 vis. at 210° No. 8 color		
0 to 10 p.p.	34(1)	34(1)
15 to 25 p.p.	33.5(1)	33.5(1)
30 to 40 p.p.	33(1)	33(1)
E filtered		
Cyl. Stock.	24.5(1)	24.5(1)
Note: To obtain prices delivered in Chicago add 0.5c per gal.		

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight Basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70 ....8.5(Quote)		8.5(Quote)
FOB BRECKENRIDGE		
Grade 26-70 ..... 8(Quote)		8(Quote)

LPG Prices

(Of refiners, FOB refineries, in cents per gal., tank cars or transport trucks)

District	Commercial Propane	Industrial Propane	Commercial Butane	Industrial Butane
N.Y. Harbor..	9(2)	9(1)	9(1)	9(1)
Philadelphia..	9(2)	....	....	....
Baltimore	9(1)	....	....	....
Hastings, W.Va.	8.25(1)	....	7.5(1)	....
New Orleans..	6.5(1)a	....	....	....
Houston	....	....	....	....
Toledo	9(1)	....	9.25(1)	....

(a) Tank cars only.

Naphthas and Solvents

(FOB Group 3)		
Stoddard solvent	(4)10.875-11.125(2)	(4)10.875-11.125(2)
Cleaners naphtha	(3)11.375-11.625(2)	(3)11.375-11.625(2)
V.M.&P. Npth.	(5)11.375-11.625(2)	(5)11.375-11.625(2)
Mineral spirits.	(5)10.375-10.625(2)	(5)10.375-10.625(2)
Rubber solv.	(1)10.875-11.375(4)	(1)10.875-11.375(4)
Lacquer dil.	..(3)11.625-12(1)	(3)11.625-12(1)
Benzol dil.	(2)12.125-12.55(1)	(2)12.125-12.55(1)
WESTERN PENNA.		
Bradford-Warren:		
Stoddard solv.	....	....
Other Districts:		
Untreated Npth.	12.5(1)	12.5(1)
Stoddard Solv.	(4)13-14(1)	(4)13-14(1)
OHIO (S. O. quotations for statewide delivery); V.M.&P. naphtha D.C. naphtha, Varnolene &		
Sohio solvent	16.0	16.0
Rubber solvent	15.5	15.5
E. TEXAS (Truck Trnspt.)		
Stoddard Solv.	....(1)10.75-11.25(1)	(1)10.75-11.25(1)
KANSAS (For Kan. Dest'n. only)		
Stoddard Solv.	..(1)11.125-11.25(1)	(1)11.125-11.25(1)

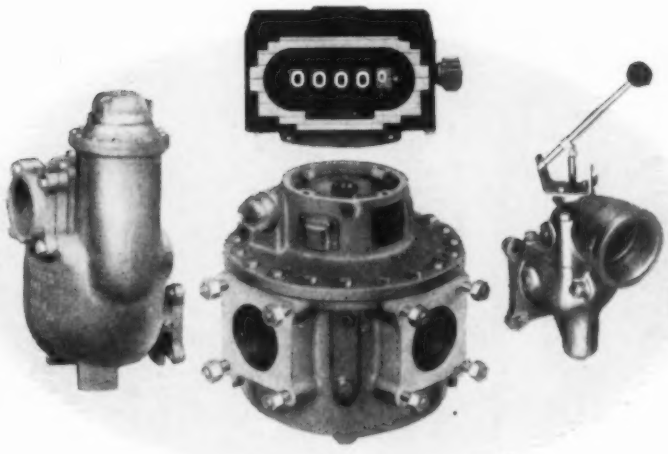
Wax

WESTERN PENNA. (Bbls. C.L.)		
White Crude Scale:		
122-124 A.m.p.	(1)7.25-9.75(1)	(1)7.25-9.75(1)
124-126 A.m.p.	(1)7.25-9.75(1)	(1)7.25-9.75(1)
MID-CONTINENT (C.L. FOB Refinery)		
Semi-refined:		
132-134 AMP. bbls.	....	....
CHICAGO (FOB Chicago district refinery of one refiner in bags, carloads. Carloads, slabs loose, 0.75c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)		
Fully refined:		
122-124 (bags only)	8.05	8.05
125-127	8.35	8.35
127-129	8.6	8.6
130-132	8.9	8.9
132-134	9.15	9.15
135-137	9.8	9.8

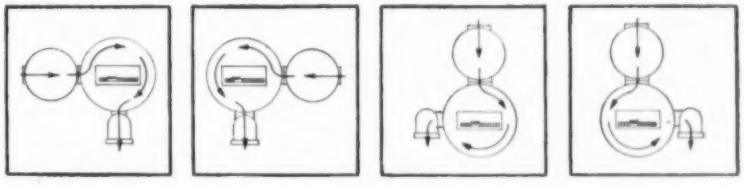
Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c less.)		
Snow White.	(2)7.25-8(1)	(2)7.25-8(1)
Lily White..	(2)6.25-7.25(2)	(2)6.25-7.25(2)
Cream White	(2)6-6.75(2)	(2)6-6.75(2)
Light Amber	(2)4.5-5.5(1)	(2)4.5-5.5(1)
Amber	(2)4.25-5.25(1)	(2)4.25-5.25(1)
Red	(1)4.5-5.125(1)	(1)4.5-5.125(1)

"UNITIZED" construction



gives you all these:



You make your own selection of components to suit your particular requirements. Wide choice of counter, dial and printer combinations available plus variable ways of attaching inlet and outlet fittings. Rotor will revolve in either direction. You may assemble the "units" to fit your needs. The result is a compact installation with fast, accurate, dependable service.

Easy to install. Many combinations and arrangements are possible with Smith Truck Meters. Diagrams above illustrate the four most common. Meters can be changed from Right to Left Hand or Left to Right Hand. For specifications, dimensions, complete information, ask for Truck Meter Bulletin.

SMITH METER COMPANY

SUBSIDIARY OF A. O. SMITH CORPORATION

FACTORY—5743 SMITHWAY, LOS ANGELES 22, CALIF.

Sales Offices: NEW YORK, CHICAGO, HOUSTON, LOS ANGELES.
In Canada: TORONTO, VANCOUVER. *International Division,* MILWAUKEE 1, WISC. *Local Agents in All Principal Cities.*

SPECIAL NOTICE

Owing to present short supply of many products, some sellers are withholding public quotations or the posting of firm prices on some products but are giving OILGRAM the prices they otherwise would quote to trade in general and which today they confine mostly to their regular customers only.

Atlantic & Gulf Coasts

Prices are of refiners, FOB their refineries & tanker terminals, and of tanker terminal operators, FOB their terminals. Ships' bunkers prices are exclusive of lighterage. Prices in effect April 5.

District	78-78.5 Oct. Prem. Gasoline*	78-78.5 Oct. Prem. Gasoline†	78-78.5 Oct. Prem. Gasoline††	74-76 Oct. Reg. Gasoline*	74-76 Oct. Reg. Gasoline†
N. Y. Harbor	....	(1)11.5-13.4(1)	....	....	(1)10.5-12(1)
do barges	....	(1)11.4-12.1(2)	....	....	(1)10.4-11.9(1)
Albany	....	(1)13-13.85(1)	13.5(1)	....	(5)12-12.3(1)
Baltimore	....	(1)11-12.3(1)	(1)11.75-12.2(1)	....	(1)10-11.8(1)
do barges	....	10.9(1)	(1)11.65	....	(1)9.9-10.4(1)
Baton Rouge	10.8(1)	....	....	9.8(1)	....
do barges	10.8(1)	....	....	9.8(1)	....
Boston	....	(1)11.5-13.9(1)	13.5(1)	....	(1)10.5-12.4(1)
Charleston	....	(1)11.1-11.6(1)	11.65(1)	....	(2)10.1-10.6(2)
Corpus Christi	....	(1)12-13(1)	....	....	11(1)
do barges	....	....	....	....	....
Houston	(1)12-13.5(1)	(1)12-13.15(1)	....	(2)11-12.75(1)	(1)11-11.15(1)
do barges	....	....	....	....	....
Jacksonville	....	(3)12.3-13.75(1)	12.3(1)	....	(6)11.3-12(1)
Miami	....	(3)12.3-12.75(1)	12.3(1)	....	(4)11.3-11.75(1)
Mobile	....	12.3(2)	12.3(1)	....	11.3(3)
New Haven	....	13.7(2)	13.7(1)	....	12.2(3)
New Orleans	(1)11-11.25(1)	12(1)	....	(1)10-10.5(1)	11(1)
do barges	(1)11-11.25(1)	12(1)	....	(1)10-10.5(1)	11(1)
Norfolk	....	(1)11.3-11.95(1)	11.8(1)	....	(1)10.3-10.95(1)
Pensacola	....	12.4(1)	....	....	11.4(1)
Philadelphia	....	(1)12.15-13.15(1)	(1)12.15-12.4(1)	....	(1)10.9-11.9(4)
do barges	....	(1)12.05-12.8(1)	12.05(1)	....	(1)10.8-11.8(1)
Port Everglades	....	(3)12.3-12.75(1)	12.3(1)	....	(4)11.3-11.75(1)
Portland	....	(1)13.25-13.5(1)	13.5(1)	....	12(4)
Providence	....	(1)13.25-13.55(1)	13.5(1)	....	(4)12-12.1(1)
Savannah	....	(2)12.3-12.75(1)	12.3(1)	....	(5)11.3-11.75(1)
Tampa	....	(3)12.3-12.75(1)	12.3(1)	....	(5)11.3-11.75(1)
Wilmington, N. C.	....	(2)11.35-11.95(1)	11.85(1)	....	(1)10.35-10.95(1)

District	Kerosine—No. 1 Fuel	No. 2 Fuel	Gas-House Gas Oil	No. 5 Fuel (0-10 p.t.)	No. 5 Fuel (15-60 p.t.)
N.Y. Harbor	(6)10.3-12(1)	(13)9.4-10.1(1)	(1)9.5-9.8(1)	(5)$3.38-4.25(1)	$3.20(1)
do barges	(5)10.2-11.9(1)	(12)9.3-10(1)	....	(3)3.35-4.25(1)	3.17(1)
Albany	(1)10.4-10.75(1)	(1)9.4-9.85(1)	10.2(1)	4.12(1)	....
Baltimore	(9)10.3-10.5(2)	9.4(12)	9.5(1)	....	(1)3.20-3.42(1)
do barges	10.2(3)	9.3(4)	....	....	3.17(1)
Baton Rouge	9.7(1)	8.7(1)	....	....	....
do barges	9.7(1)	8.7(1)	....	....	....
Boston	(1)10.4-10.6(13)	(1)9.5-9.6(12)	10(1)	(1)3.65-3.655(1)	3.589(1)
Charleston	10.2(4)	(1)9.4-9.5(3)	....	....	....
Corpus Christi	....	....	....	....	....
do barges	....	....	....	....	....
Houston	(1)9.5-13.25(1)	(2)9-12(1)	....	....	....
do barges	....	....	....	....	....
Jacksonville	(7)10.7-11.2(1)	(5)10.3-10.8(1)	....	....	....
Miami	(6)10.7-10.85(1)	10.3(4)	....	....	....
Mobile	10.7(4)	10(1)	....	....	....
New Haven	(7)10.5-10.7(1)	(5)9.6-9.8(1)	....	....	....
New Orleans	(1)9.7-10.1(2)	(1)8.85-9(4)	....	....	....
do barges	(1)9.7-10.1(1)	9(2)	....	....	....
Norfolk	(5)10.3-10.6(1)	(4)9.3-9.8(1)	9.4(1)	....	(1)3.14-3.17(1)
Pensacola	(1)10.5-10.8(1)	....	....	....	....
Philadelphia	(8)10.3-10.5(1)	(8)9.4-9.6(1)	9.8(1)	....	(2)3.29-3.52(2)
do barges	10.2(5)	9.3(5)	....	....	....
Pt. Everglades	(6)10.7-10.85(1)	10.3(4)	....	....	....
Portland	(2)10.4-10.7(6)	(2)9.5-9.7(5)	10.1(1)	....	....
Providence	(2)10.4-10 6(7)	(2)9.4-9.6(6)	10(1)	....	(1)3.475-3.559(1)
Savannah	(6)10.7-10.85(1)	10.3(4)	....	....	....
Tampa	(7)10.7-10.85(1)	10.3(7)	....	....	....
Wilmington, N. C.	(5)10.2-10.6(1)	(6)9.5-9.8(1)	....	....	....

District	No. 6 Fuel	No. 6 Fuel Barges	Bunker C Fuel, Ships' Bunkers	Diesel oil, Ships' Bunkers	Diesel Oil Shore Plants
N. Y. Harbor	(3)$3.03-3.27(2)	(3)$3.00-3.27(2)	(2)$3.00-3.05(1)	(1)$3.91-4.10(1)	(1)9.7-9.8(3)
Albany	3.249(1)	3.249(1)	3.249(1)	....	(1)9.7-10.2(2)
Baltimore	(3)3.03-3.17(2)	(3)3.00-3.17(2)	(2)3.00-3.04(1)	4.04(2)	(1)9.6-9.8(2)
Baton Rouge	2.54(1)	2.51(1)	2.51(1)	3.65(1)	9.1(1)
Boston	(1)3.055-3.315(1)	(1)3.025-3.315(1)	(1)3.025-3.095(1)	4.08(1)	(1)9.8-10.4(1)
Charleston	2.96(2)	2.93(2)	2.93(2)	3.95(1)	(1)9 4-9.5(1)
Corpus Christi	2.56(1)	2.53(1)	(1)2.53-2.55(1)	(1)2.90-3.15(1)	....
Houston	(1)2.54-2.58(2)	(2)2.51-2.53(1)	(2)2.51-2.53(1)	....	(1)9-12(1)
Jacksonville	(3)2.99-3.03(1)	(3)2.96-3.00(1)	(3)2.96-3.00(1)	4.32(1)	10.3(5)
Miami	....	....	....	....	....
Mobile	....	....	....	....	....
New Haven	3.035(2)	3.035(2)	3.035(2)	....	(1)9.9-10.7(1)
New Orleans	(3)2.54-2.58(1)	(3)2.51-2.55(1)	(3)2.51-2.55(1)	(1)3.40-3.89(1)	(1)9.1-9.4(2)
Norfolk	(2)3.00-3.04(1)	(2)2.97-3.07(1)	(2)2.97-3.01(1)	4.06(1)	(2)9.6-9.7(1)
Pensacola	....	....	....	....	....
Philadelphia	(2)3.03-3.17(2)	(2)3.00-3.17(2)	(2)3.00-3.17(1)	(1)3.78-4.10(2)	(2)9.7-9.8(5)
Port Everglades	2.94(1)	2.91(1)	2.91(1)	4.32(1)	....
Portland	(1)3.095-3.115(1)	(1)3.085-3.095(1)	(1)3.085-3.095(1)	....	(1)10.1-10.4(1)
Providence	(1)3.045-3.085(1)	(1)3.055-3.965(1)	(1)2.995-3.065(1)	....	(2)10-10.4(1)
Savannah	(1)2.99-3 03(1)	(1)2.96-3.00(1)	(1)2.96-3.00(1)	4.32(1)	10.3(3)
Tampa	(2)2.89-2.93(1)	(2)2.86-2.90(1)	(2)2.86-2.90(1)	4.32(2)	10.3(5)
Wilmington, N. C.	....	....	....	3.96(1)	....

* Motor Method & Research octane ratings are approximately same. † Research octane rating is minimum of 5 points above Motor Method rating. †† Research octane rating is minimum of 10 points above Motor Method rating.

(Additional Gulf Coast prices on p. 53)

Lake Port Terminal Prices

Prices in Effect April 5

	Buffalo	Cleveland	Detroit	Toledo
78-78.5 Oct. Ethyl	....	.....	....	....
74-76 Oct.	(2)12.8-13.1(1)	.....	....	....
Kerosine	(2)11.9-12.8(1)	.....	....	....
Diesel Fuel	11(1)	12(1)	....	(1)11.3-12(2)
No. 1 Fuel	....	12.75(1)	11.8(1)	(1)11.7-12.75(2)
No. 2 Fuel	(1)10.9-12.25(1)	....	11.35(1)	11.5(1)
No. 3 Fuel	....	12(1)	11.1(1)	(1)10.7-12(2)
No. 5 Fuel	....	10.15(1)	10.45(1)	9.5(2)
No. 6 Fuel	(1)8.7-10.7(1)	9.75(1)	9.6(1)	9.25(3)

NPN Gasoline Index

	Dealer T.W.	Tank Car
	Cents Per Gal.	
Apr. 5	14.53	11.20
Month ago	14.53	11.16
Year ago	12.48	8.78

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston and Gulf Coast.

Mid-Continent Lubes

(At Gulf; in packages, FAS, New Orleans; in bulk, FOB terminals)

Prices in Effect April 5

Bright Stock	Steel Drums	Bulk
D color, Vis. at 210°		
150 vis., 0-10 p.p.	(1)50-53(1)	(1)42-44(1)

Wax

(Melting points are AMP, 3° higher than EMP. Prices are FOB refinery; carloads, scale in bags or bbls, fully refined slabs loose

Prices in Effect April 5

Crude Scale	New Orleans Export	N.Y. Domestic	N.Y. Export
124-6 Yellow	....	....	8.75(1)
122-4 White.	....	7.25(2)	....
124-6 White	8.80(1)	(2)7.25-9.75(1)	(3)8.75-9.5(1)
Fully Refined:			
123-5	....	(1)7.05-7.5(1)	....
125-7	9.3(1)	(1)7.15-7.5(1)	9.25(2)
128-30	9.55(1)	(1)7.25-7.8(1)	9.5(2)
130-2	9.8(1)	(1)7.55-8.05(1)	9.75(1)
133-5	10.05(1)	(1)7.55-8.2(1)	10(2)
135-7	10.55(1)	(1)8.3-8.45(1)	10.5(1)

Naphtha

Prices in Effect April 5

	V.M.&P. Naphtha	Mineral Spirits
New York Harbor	15(4)	14(5)
Philadelphia	15(4)	14(5)
Baltimore	....	13.5(4)
Boston	15.5(4)	14.5(5)
Providence	....	14.5(3)

Export Prices

Prices in Effect April 5

	Mexican Gulf Ports U. S. Dollars per Bbl. Bunker C (Ships' Bunkers)	Diesel (Ships' Bunkers)
Tampico	$2.65	$3.15
Veracruz	2.65	....
Minatitlan	2.65	3.15
	Pacific Coast	
Guaymas	$3.16	$3.95
Manzanillo	3.16	3.66
Salina Cruz	3.16	3.50

Pacific Coast

Prices in Effect April 5

(In Ship's Bunkers, or Deep Tank Lots)	Diesel Fuel (P.S. 200)	Bunker C Fuel (P.S. 400)
San Pedro, Calif.	$3.18(4)	$2.10(4)
San Francisco	3.39(4)	(3)2.15–2.20(1)
Portland, Ore.	3.60(4)	2.40(4)
Seattle, Wash.	3.60(4)	2.40(4)

Tanker Rates

Approximate rates, c per bbl.; Gulf-N. Atlantic, not east of N. Y. Rates are for vessels 14,000 DWT or over; for vessels 9000/13,999 DWT, rates are 15% higher.

Heavy crude & fuel, 10-19.9 grav.	43.8
Light crude, 30 grav. or lighter	39
Gasoline	32.9
Kerosine	36
No. 2 fuel	38

Oil Price Section

Refinery & Terminal Prices (Cont.)

Gulf Coast—Cargoes, Domestic & Export, All Ports

Cargo prices are FOB ship at Gulf, minimum of 20,000 bbls., and are by refiners only to other refiners, export agents, or tanker terminal operators. The figure in parentheses after each price indicates the number of companies quoting that price. **Prices in Effect April 5.**

Aviation Gasoline

Grade 115/145 (AN-F-48)	18(1)
Grade 100/130 (AN-F-48)	16.25(2)
Grade 91/98 (AN-F-48)	14.75(1)–15.25(1)
Grade 80 (AN-F-48)	14.25(1)

Motor Gasoline, Leaded

*78-78.5 Oct. (Premium)	11(1)–11.25(1)–11.75(1)
†78-78.5 Oct. (Premium)	11.75(1)–12(1)
††78-78.5 Oct. (Premium)	12(1)
*74-76 Oct. (Regular)	9(1)–10.25(1)–10.5(1)–11(1)–12(1)
†74-76 Oct. (Regular)	9(1)–11(1)–11.25(1)–12(1)
70-72 Oct.	8.5(1)–10.125(1)–10.5(1)–10.75(1)–12(1)

* Motor Method & Research octane ratings are approximately same.
† Research octane rating is minimum of 5 points above Motor Method rating.
†† Research octane rating is minimum of 10 points above Motor Method rating.

Kerosine & Light Fuels

41-43 kerosine	9(2)–10.1(1)–10.25(1)
No. 2 Fuel	8(3)–8.5(1)–9(1)–9.25(1)

Diesel & Gas Oils

43-47 Diesel index	8.25(1)–9.25(1)–10(1)
48-52 Diesel index	8.25(1)–9.5(1)–10(1)
53-57 Diesel index	8.375(2)–9.75(1)

Heavy Fuels—Cargoes

No. 5 Fuel, 0-10 p.t.	$3.45(2)
Bunker C Fuel	$2.46(1)–$2.50(2)–$3.20(1)–$3.50(1)

Heavy Fuels—Ships' Bunkers (ex lighterage)

Below 28 grav. heavy Diesel	$3.15(2)–$3.40(1)–$3.60(1)
28 grav. & above Diesel	$3.55(1)–3.65(2)–3.70(1)–3.89(1)
Bunker C Fuel	$2.51(5)–$2.53(2)–$2.55(3)–$3.25(1)

Aviation Gasoline & Jet Propulsion Fuel

Prices in Effect April 5

(Prices are for tank cars, barge or truck transport lots; aviation gasolines meet Specification AN-F-48, unless otherwise noted. Jet fuel meets AN-F-32.)

District	Aviation Gasoline Grade 115/145	Grade 100/130	Grade 91/98	Grade 80	Jet Fuel (JP-1-2)
New York, N. Y.	19.85(1)	(1)17.7-18.1(2)	(2)16.6-16.7(1)	(1)15.7-15.85(1)	....
Boston, Mass.	....	18.2(2)	16.7(2)	15.95(1)	....
Portland, Me.	....	....	....	17.8(1)	....
Phila., Pa.	....	18.1(1)	16.6(1)	....	....
Baltimore, Md.	....	18.1(2)	(2)16.6-16.7(1)	(1)15.7-15.85(1)	....
Norfolk, Va.	....	18.1(2)	16.6(2)	15.85(1)	....
Charleston, S. C.	....	18(2)	16.5(2)	15.75(1)	....
New Orleans, La. (Baton Rouge)	18.75(1)	17(2)	15.5(2)	14.75(1)	10.45(1)
Houston, Tex.	18.75(2)	17(3)	15.5(3)	14.75(2)	10.5(1)

Atlantic Revises Tank Wagon Kerosine Prices in 2 States

Special to NPN

PHILADELPHIA—Atlantic Refining Co. has announced revision of its tank wagon price structure for kerosine in Pennsylvania and Delaware, effective April 1.

Coincident with a 2c per gal. reduction in its posted prices at all points in the two states, the company has eliminated the 2c per gal. discount which had been allowed on tank wagon deliveries of 25 gals. or more; under the new schedules, buyers taking tank wagon deliveries of less than 25 gals. will pay 2c above the posted tank wagon prices.

"This does not mean any increase or decrease in prices to anyone," Atlantic stated.

Honolulu Bunker Price Up

SAN FRANCISCO—Shell Oil Co., Inc., has announced 8c increase to $2.615 per bbl. in its posted price for bunker fuel oil, ships' bunkers, at Honolulu, T. H., effective April 6. Price is exclusive of Hawaiian gross income tax.

Shell Meets Esso Standard's Discount Policy on Kerosine

NPN News Bureau

NEW YORK — Shell Oil Co. to date is the only major company in the East to meet the discount policy on kerosine and heating oils adopted by Esso Standard (see March 31 NPN, p. 14).

Shell spokesman said that, effective April 1, it was offering 0.7c per gal. discount from its posted prices to customers in all areas where Esso Standard markets except Arkansas and West Virginia. Same two states also were not included in area where Esso adopted the discount policy to encourage off-season fills.

States where the two companies are offering discount are: Connecticut, Delaware, Louisiana, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, and Virginia, and District of Columbia.

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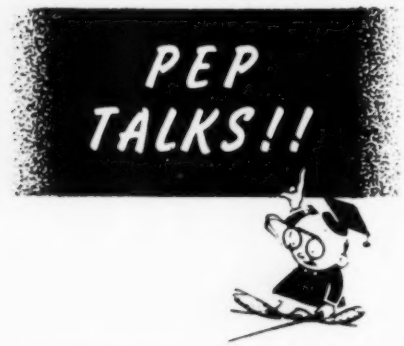

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Factory: New Market, N. J.

Tank Wagon Prices

Commercial or consumer tank car, tank wagon, dealer and service station prices for gasoline do not include taxes; they do, however, include inspection fees as shown below. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect April 5, 1948, as posted by principal marketing companies at their headquarters offices, but subject to later correction.

Inspection fees per gal., included in both gasoline and kerosine prices, unless otherwise specified, are as follows:

Ala. 1/40c on gasoline; Ark. 1/20c; Fla. 1/8c; Ill., 3/100c; Ind. 2/25c; Kans. 1/50c; La. 1/32c; Minn. 5/200c; Neb. 2/100c; Nev. 1/20c; N. C. 1/4c; N. D. 1/20c; Okla. 2/25c; S. C. 1/8c, S. D. 1/40c; Tenn. 2/5c; and Wisc. 3/100c.

Kerosine inspection fees only: Ala. 1/2c; Iowa 1/50c; Mich. 1/5c.

ATLANTIC REFINING

	Atlantic White Flash (Regular Grade)			
	Commercial T.W.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	12.9	12.9	5.5	°13.5
Pittsburgh	13.8	13.8	5.5	°14.4
Allentown	13.5	13.5	5.5	°14.1
Erie	13.8	13.8	5.5	°14.4
Scranton	13.8	13.8	5.5	°14.4
Altoona	13.8	13.8	5.5	°14.4
Emporium	13.8	13.8	5.5	°14.4
Indiana	13.8	13.8	5.5	°14.4
Uniontown	13.8	13.8	5.5	°14.4
Harrisburg	13.5	13.5	5.5	°14.1
Williamsport	13.8	13.8	5.5	°14.4
Dover, Del.	13.5	13.5	5.5	°14.1
Wilmington	12.9	12.9	5.5	°13.5
Boston, Mass.	13.2	13.2	4.5	....
Springfield	13.5	13.5	4.5	....
Worcester	13.4	13.4	4.5	....
Fall River	13.2	13.2	4.5	....
Hartford, Conn.	13.8	13.8	5.5	....
New Haven	13.5	13.5	5.5	....
Providence, R. I.	13.2	13.2	5.5	....
Atlantic City, N. J.	....	12.4	4.5	13.1
Camden	....	12.4	4.5	13.1
Trenton	....	12.4	4.5	13.1
Baltimore, Md.	....	12.4	6.5	13.1
Hagerstown	....	13.2	6.5	13.9
Richmond, Va.	....	12.5	7.5	13.7
Wilmington, N. C.	....	12.7	7.5	13.5
Brunswick, Ga.	....	14.4	7.5	14.2
Jacksonville, Fla.	....	13.9	8.5	13.7

	Mineral Spirits T.W.	V.M.&P T.W.
Philadelphia, Pa.	15.0	16.5
Lancaster, Pa.	16.0	17.5
Pittsburgh, Pa.	17.5	18.5

	Fuel Oils—T.W. 1	2	5	6
Phila., Pa.	13.5	12.0	8.89	8.12
Pittsburgh	....	12.9	....	....
Allentown	14.1	12.6	....	....
Wilmington, Del.	13.5	12.0	....	....
Dover	....	12.6	....	....
Springfield, Mass.	....	13.0	....	....
Worcester	....	12.5	....	....
Hartford, Conn.	....	12.4	....	....

Taxes:
Brunswick, Ga., kerosine price does not include 1c state tax.

Notes:
Kerosine—Thru Penna. & Del., add 2c per gal. for t.w. deliveries of less than 25 gals. at one time.

Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

° Effective Apr. 1; see page 61.

KENTUCKY STANDARD

	Crown Net Dealer	Gasoline Taxes	Kerosine T.W.	Diesel Fuel Net T.W.
Covington, Ky.	15.5	°8.5	15.5	15.1
Lexington	15.7	°8.5	15.5	15.1
Louisville	15.0	°8.5	14.8	14.4
Paducah	14.8	°8.5	14.6	14.2
Jackson, Miss.	14.3	7.5	14.1	13.7
Vicksburg	13.9	7.5	13.7	13.3
Birmingham, Ala.	14.4	8.5	14.7	13.8
Mobile	13.9	9.5	14.2	13.3
Montgomery	14.5	9.5	14.8	13.9
Atlanta, Ga.	14.6	7.5	14.4	14.0
Augusta	15.0	7.5	14.8	14.4
Macon	14.6	7.5	14.4	14.0
Savannah	13.9	7.5	13.7	13.3
Jacksonville, Fla.	13.9	8.5	13.7	13.3
Miami	13.9	8.5	13.7	13.3
Pensacola	14.0	9.5	13.8	13.4
Tampa	13.9	8.5	13.7	13.3

Taxes:
Gasoline tax column includes these city & county taxes: Mobile, 2c city; Birmingham, 1c county; Montgomery, 1c city & 1c county; Pensacola, 1c city. Other taxes not included in prices: Georgia, kerosine, 1c; Montgomery, kerosine & diesel, 1c; Mississippi, kerosine & diesel, 0.5c.

Notes:
Consumer t.w. prices are same as net dealer prices.

° Effective April 1.

CALIFORNIA STANDARD

	CHEVRON (Regular) T.T.	Retail	Av. 80 T.T.	Gasoline Taxes	Kerosine T.T.
San Fran., Cal.	13.9	17.9	17.4	6.0	15.4
Los Angeles	13.4	17.4	16.8	6.0	14.9
Fresno	14.9	18.9	18.4	6.0	16.4
Phoenix, Ariz.	16.5	20.5	20.0	6.5	18.0
Reno, Nev.	16.1	20.1	19.6	7.0	17.6
Portland, Ore.	14.5	18.5	18.0	6.5	17.5
Seattle, Wash.	14.5	18.5	18.0	6.5	17.5
Spokane	17.1	21.1	20.6	6.5	21.1
Tacoma	14.5	18.5	18.0	6.5	17.5
Boise, Idaho	17.8	....	21.3	7.5	21.1
Salt Lake, U.	16.4	....	19.3	5.5	16.5
Honolulu, T. H.	14.9	19.4	18.4	7.5	16.4
Fairbanks, Alaska	26.2	30.2	29.7	3.5	33.7
Juneau	15.9	19.9	19.4	3.5	18.9

Taxes:
Boise 7.5c tax applies to motor fuel only; avgas taxes are 1.5c federal, 2.5c state. Reno 7c tax includes 1.5c county tax. Honolulu 7.5c tax applies to motor fuel only; avgas taxes are 1.5c federal, 5c territorial; Hawaiian gross income tax also is excluded as follows: from retail price 0.6c per gal., & from TT prices 1% to resellers, 2.5% to consumers.

Notes:
Resale & Commercial Gasoline: T.C. prices for Chevron (regular) are 0.25c per gal. below posted net tank truck prices; Pearl Oil (kerosine) T.C. prices, 3c per gal. below posted net tank truck prices.

Prices for Chevron Supreme (Ethyl) are 1.5c above Chevron (regular), except at Honolulu where spread is 2c. Retail prices for Chevron Supreme are 4.5c above Chevron Supreme tank truck prices except at Honolulu where spread is 5.1c. Prices for Chevron Aviation 91 are 2c above Chevron Aviation 80; for Chevron Aviation 100, 5c above Chevron Aviation 80; for Chevron Aviation 115, 8c above Chevron Aviation 80.

INDIANA STANDARD

	Blue Crown (3rd Grade) Red Crown (Reg. Grade) Red Cr'n. Cons. T.W.	Red Cr'n. Dir. T.W.	Blue Cr'n. Dir. T.W.	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	17.6	15.6	15.1	4.5	15.8
Decatur	17.3	15.8	15.3	4.5	15.5
Joliet	17.6	16.1	15.6	4.5	15.8
Peoria	17.4	15.9	15.4	4.5	15.6
Evansville, Ind.	17.6	16.1	15.6	5.5	15.8
Indianapolis	17.8	16.3	....	5.5	16.0
South Bend	18.2	16.7	....	5.5	16.4
Detroit, Mich.	16.8	15.3	....	4.5	14.8
Grand Rapids	16.9	15.4	....	4.5	14.9
Saginaw	16.8	15.3	....	4.5	14.8
Green Bay, Wisc.	18.0	16.5	16.0	5.5	16.2
Milwaukee	17.9	16.4	15.9	5.5	16.1
La Crosse	17.7	16.2	....	5.5	15.9
Duluth, Minn.	18.0	16.5	....	5.5	16.2
Mpls.-St. Paul	17.7	16.2	15.7	5.5	15.9
Mankato	17.7	16.2	15.7	5.5	15.9
Des Moines, Ia.	17.1	15.6	15.1	5.5	15.3
Mason City	17.5	16.0	15.5	5.5	15.7
St. Louis, Mo.	17.1	15.6	15.1	4.5	15.3
Kansas City	16.4	14.9	14.4	5.0	14.6
St. Joseph	16.4	14.9	....	4.5	14.6
Fargo, N. D.	18.7	17.2	16.7	5.5	16.9
Huron, S. D.	18.1	16.6	16.1	5.5	16.3
Wichita, Kans.	14.9	14.1	13.6	5.5	13.8
Omaha, Neb.	17.1	15.6	....	6.5	15.3

	Stanavo Aviation Number 73 Cons. T.W.	Taxes
Detroit, Mich.	21.8	4.5
Fargo, N. D.	21.2	5.5
Huron, S. D.	20.6	5.5
Indianapolis, Ind.	20.3	5.5
Kansas City, Mo.	18.9	5.0

(Prices are base prices before discounts)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	Taxes
Chicago	18.7	19.0	18.0	4.5
Detroit	21.1	20.3	21.6	4.5
K. C., Mo.	18.2	19.2	18.7	1.5
St. Louis	18.9	19.9	19.4	1.5
Milwaukee	19.7	20.7	20.2	5.5
Minneap'ls	19.5	20.5	20.0	5.5

	Fuel Oils T. W. Chicago Standard Heater Oil	Stanolex Furnace Oil
1-99 gals.	15.3	14.6
100-149 gals.	14.3	13.6
150 gals. & over	13.8	....
150-399 gals.	....	13.6
400 gals. & over	....	13.1

	Stanolex Fuel A	Stanolex Fuel C
1-749 gals.	10.35	9.6
750 gals. & over	9.6	8.85

	Stanolex Furnace Oil 1-99 gals.	100 gals. & over
Indianapolis	14.7	13.7
Detroit	14.2	13.2
Milwaukee	14.8	13.8
Minneapolis	14.6	13.6
St. Louis	14.0	13.0
Kansas City	13.4	12.4

Taxes:
Gasoline tax column includes these city taxes: Kansas City, 1.5c; St. Joseph, & St. Louis, 1c. Naphtha tax column includes 1.5c federal & state taxes, Iowa kerosine prices do not include 4c state tax. State sales, occupation, consumer & use taxes to be added where applicable.

Tank Wagon Prices—Continued

	Gasoline Taxes	Mobilgas Aircraft Grade 80 T.C.	Grade 80 T.W.	Grade 91 T.C.	Grade 91 T.W.	Grade 100 T.C.	Grade 100 T.W.	Mobilgas (Regular Grade) Com. Cons. T.C.	Mobilgas (Regular Grade) Com. Cons. T.W.	Mobilgas (Regular Grade) Indiv. Dlr. T.W.	Mobil Kerosine T.C.	Mobil Kerosine Yard	Mobil Kerosine T.W.	Mobilfuel Diesel T.C.	Mobilfuel Diesel T.W.	MOBILHEAT (No. 2 Fuel) T.C.	MOBILHEAT (No. 2 Fuel) Yard	MOBILHEAT (No. 2 Fuel) T.W.
New York City:																		
Main	5.5	....	....	....	19.5	....	....	....	12.8	13.3	....	....	14.2	....	12.7	....	....	12.3
Bronx	5.5	....	....	....	19.5	....	....	....	12.8	13.3	....	....	14.2	....	12.7	....	....	12.3
Kings	5.5	....	....	....	19.5	....	....	....	12.8	13.3	....	11.1	14.2	....	12.7	9.5	9.9	12.3
Queens	5.5	....	....	....	19.5	....	....	....	12.8	13.3	....	....	14.2	....	12.7	....	....	12.3
Richmond	5.5	....	....	....	18.9	....	21.2	....	12.5	13.0	10.4	10.7	13.6	....	12.5	9.4	9.8	12.1
Albany, N. Y.	5.5	....	19.1	....	20.1	....	22.35	12.0	12.6	13.1	10.7	10.9	13.7	10.2	12.6	9.8	10.0	12.2
Binghamton	5.5	....	....	....	....	....	....	13.7	14.1	14.6	12.7	12.9	15.7	....	14.3	11.4	11.9	13.9
Buffalo	5.5	....	20.0	....	21.0	....	23.25	12.8	13.3	13.8	11.9	12.3	15.1	11.3	14.1	10.9	11.3	13.7
Jamestown	5.5	....	20.1	....	....	....	....	13.3	13.5	14.0	11.9	....	14.9	....	14.9	12.1	....	14.5
Mt. Vernon	5.5	....	....	....	....	....	....	....	13.0	13.5	....	11.4	14.3	....	12.8	....	10.0	12.4
Plattsburg	5.5	....	....	....	....	....	....	....	13.7	14.2	11.7	11.9	14.5	....	....	10.7	10.7	12.9
Rochester	5.5	....	19.9	....	20.9	....	....	13.3	13.8	14.3	12.1	12.1	15.3	....	13.6	10.9	10.9	13.2
Syracuse	5.5	....	19.6	....	20.6	....	....	13.0	13.4	13.9	12.1	12.5	15.3	11.0	13.4	10.6	10.8	13.0
Bridgeport, Conn.	5.5	....	....	....	....	....	....	....	12.8	13.3	10.5	10.7	....	....	....	9.5	9.7	12.0
Danbury	5.5	....	....	....	....	....	....	....	13.5	14.0	....	11.9	....	....	....	....	11.0	13.0
Hartford	5.5	....	....	....	....	....	....	12.4	13.2	13.7	11.2	11.2	....	10.5	12.8	10.1	10.1	12.4
New Haven	5.5	....	18.8	....	....	....	....	12.2	12.9	13.4	10.5	10.7	....	10.0	12.3	9.6	9.8	12.1
Bangor, Me.	7.5	....	19.9	....	....	....	....	12.5	13.5	14.0	11.4	....	14.7	10.8	12.8	10.4	....	12.4
Portland	7.5	....	19.0	....	20.0	....	....	12.0	12.7	13.2	10.7	....	14.0	10.1	12.5	9.7	....	12.1
Boston, Mass.	4.5	15.95	17.2	16.7	18.2	18.2	20.45	12.0	12.6	13.1	10.6	....	14.1	10.0	12.7	9.6	....	12.3
Concord, N. H.	5.5	....	....	....	....	....	....	....	13.8	14.3	....	12.5	15.7	....	13.6	....	11.2	13.2
Lancaster	5.5	....	....	....	....	....	....	....	15.0	15.5	....	13.0	16.0	....	14.5	....	12.0	14.1
Manchester	5.5	....	....	....	....	....	....	....	13.5	14.0	....	12.0	15.1	....	13.3	....	10.9	12.9
Providence, R. I.	5.5	....	18.2	....	19.2	....	....	12.0	12.6	13.1	10.6	11.2	13.9	10.0	12.4	9.6	10.0	12.0
Burlington, Vt.	6.0	....	19.5	....	....	....	....	13.0	13.6	14.1	11.6	11.8	....	11.1	13.3	10.7	10.9	12.9
Rutland	6.0	....	....	....	....	....	....	....	14.0	14.5	....	12.2	....	....	13.7	....	11.2	13.3

Tank Wagon Prices:	Buffalo	N. Y. City	Rochester	Syracuse	Boston	Hartford	Providence
Mineral Spirits	16.5	15.0	17.5	18.5	16.0	17.5	16.5
V.M.&P. Naphtha	18.5	16.5	19.0	23.0	17.5	19.0	18.5

Taxes: N.Y.C. prices do not include 2% city sales tax applicable to price of gasoline (ex tax).
Discounts: Diesel—0.5c per gal. for single delivery of 800 gals. or more.
Notes: Syracuse V.M.&P. price is in steel barrels. Jamestown t.c. prices are delivered prices; all other t.c. prices are FOB bulk terminals.

ESSO STANDARD

	Esso (Regular Grade) Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Atlantic City, N. J.	12.3	12.8	4.5	13.1
Newark	12.3	12.8	4.5	13.1
Baltimore, Md.	12.2	12.7	6.5	13.1
Cumberland	13.4	13.9	6.5	14.4
Washington, D. C.	12.6	13.1	5.5	13.5
Danville, Va.	13.2	13.7	7.5	14.4
Petersburg	12.8	13.3	7.5	14.0
Norfolk	12.1	12.6	7.5	13.4
Richmond	12.5	13.0	7.5	13.7
Roanoke	14.0	14.5	7.5	15.2
Charleston, W. Va.	13.9	14.4	6.5	15.2
Fairmont	13.8	14.3	6.5	15.2
Parkersburg	13.8	14.3	6.5	13.7
Wheeling	13.5	14.0	6.5	15.9
Charlotte, N. C.	13.7	13.7	7.5	14.1
Hickory	13.9	13.9	7.5	14.3
Mt. Airy	14.1	14.1	7.5	14.5
Raleigh	14.3	14.3	7.5	14.7
Salisbury	13.4	13.4	7.5	13.8
Charleston, S. C.	12.6	13.1	7.5	°....
Columbia	14.0	14.5	7.5	°....
Spartanburg	13.2	13.7	7.5	°....
New Orleans, La.	12.4	12.9	8.5	12.9
Baton Rouge	12.1	12.6	8.5	12.5
Alexandria	13.3	13.8	8.5	12.0
Lake Charles	12.2	12.7	8.5	13.3
Shreveport	13.4	13.9	8.5	12.7
New Iberia	12.5	13.0	8.5	12.9
Knoxville, Tenn.	13.5	14.0	8.5	13.9
Memphis	13.2	13.7	8.5	13.7
Chattanooga	13.3	13.8	8.5	13.7
Nashville	13.8	14.3	8.5	14.3
Bristol	14.6	15.1	8.5	15.0
Little Rock, Ark.	13.6	13.6	8.0	14.1

° Posting discontinued Dec. 22, 1947, according to notice received April 2, 1948.

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	15.0	16.5
Baltimore, Md.	17.5	....
Washington, D. C.	17.5	....
Fuel Oil—T.W.	**No. 1**	**No. 2**
Atlantic City, N. J.	13.1	11.8
Newark	13.1	11.8
Baltimore, Md.	13.1	11.9
Washington, D. C.	13.5	12.3
Norfolk, Va.	13.4	11.4
Petersburg	14.0	12.1
Richmond	13.7	11.8
Charlotte, N. C.	14.1	12.4
Hickory	14.3	12.3
Raleigh	14.7	13.1
Charleston, S. C.	....	11.8
Columbia	....	12.9
Spartanburg	....	12.3

Taxes: Louisiana kerosine prices do not include 1c state tax.
Discounts:
Kerosine, Nos. 1 & 2 Fuels—0.7c in all states except Ark. & W. Va.
Naphtha—Newark t.w. prices are for deliveries of 200 gals. or more; less than 200 gals., 0.5c over posted t.w. prices; steel barrel deliveries, 2c over posted t.w. prices. Baltimore & Washington prices are for t.w. deliveries of 25-99 gals., no discounts.
Notes:
Effective Dec. 22, minimum retail resale price of 16.3c for Esso Gasoline posted throughout New Jersey.

OHIO STANDARD

	Sohio X-70 Gasoline (Regular Grade) Consumers T.W.	Resellers	Gasoline S.S. Taxes	Kerosine T.W.
Ohio, Statewide	18.5	15.00	19.0 5.5	14.5
Akron	18.5	15.00	19.0 5.5	14.5
Canton	18.5	15.00	19.0 5.5	14.5
Cincinnati	18.5	15.00	19.0 5.5	14.5
Cleveland	18.5	15.00	19.0 5.5	14.5
Columbus	18.5	15.00	19.0 5.5	14.5
Dayton	18.5	15.00	19.0 5.5	14.5
Lima	18.5	15.00	19.0 5.5	14.5
Mansfield	18.5	15.00	19.0 5.5	14.5
Marion	18.5	15.00	19.0 5.5	14.5
Portsmouth	18.5	15.00	19.0 5.5	14.5
Toledo	18.5	15.00	19.0 5.5	14.5
Youngstown	18.5	15.00	19.0 5.5	14.5
Zanesville	18.5	15.00	19.0 5.5	14.5

Aviation Gasoline—Statewide	Consumer T.W.	Gasoline Taxes
Sohio Aviation Gasoline 62 Octane (Clear)	20.0	5.5
Esso (Clear) Avia, Grade 80	22.0	5.5
Esso Aviation Grade 91	23.0	5.5
Esso Aviation Grade 100	26.0	5.5

Naphtha—T.W.	Statewide
S.R. Solvent	20.0
D. C. Naphtha	20.5
V.M.&P. Naphtha	20.5
Varnolene	20.5
Sohio Solvent	20.5

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Ohio, Statewide	14.5	14.5	13.5

Taxes:
Effective Jan. 1, 1948, hangar operators can purchase aviation gasoline less 4c per gal. State Road Tax by supporting purchase with State Tax Exemption Form A-10 to supplier.
Discounts:
Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.
Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher.
Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price, 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over 1.5c.
Notes:
Renown (third-grade) gasoline prices are same as X-70 unless otherwise noted. S.S. prices are at company-operated stations. Statewide prices are subject to exceptions other than those shown.

TEXAS CO.

	Fire-Chief Gasoline (Regular Grade) Gasoline T.W.	Gasoline Taxes	Kerosine T.W.
Dallas, Tex.	13.0	5.5	11.85
Fort Worth	13.0	5.5	11.85
Wichita Falls	13.0	5.5	11.85
Amarillo	13.0	5.5	11.85
Tyler	13.0	5.5	11.85
El Paso	15.0	5.5	12.85
San Angelo	13.0	5.5	11.85
Waco	13.0	5.5	11.85
Austin	13.0	5.5	11.85
Houston	13.0	5.5	11.85
San Antonio	13.0	5.5	11.85
Port Arthur	13.0	5.5	11.85

CONT'L OIL

(N. B. Prices are Continental's "normal" prices. Current selling prices may be lower than "normal" because of local competition.)

	Conoco N-tane (regular) Tank Wagon	Demand (3rd Grade) Tank Wagon	Gasoline Taxes	Kerosine T.W.
Denver, Col.	14.8	13.8	7.5	15.9
Grand Junc.	16.9	15.9	7.5	17.2
Pueblo	15.7	14.7	7.5	15.5
Casper, Wyo.	15.7	14.7	5.5	14.9
Cheyenne	15.8	14.8	6.5	16.4
Billings, Mont.	17.0	16.0	6.5	16.2
Butte	18.0	17.0	6.5	17.9
Great Falls	17.0	16.0	6.5	17.9
Helena	17.5	16.5	6.5	17.9
Salt Lake, U.	16.4	15.4	5.5	16.5
Twin Falls, Ida.	19.1	18.1	7.5	19.2
Albuquer., N.M.	15.5	14.5	7.0	14.9
Roswell	14.8	13.8	7.0	14.2
Santa Fe	15.8	14.8	7.5	15.2
Muskogee, Okla.	13.7	12.7	7.0	12.6
Oklahoma City	13.7	12.7	7.0	12.6
Tulsa	13.7	12.7	7.0	12.6

Taxes:
Gasoline tax column includes these city taxes: Albuquerque & Roswell, 0.5c; Santa Fe, 1c; Cheyenne, 1c.
Notes:
T.W. prices are to consumers & dealers.

HUMBLE OIL

	Humble (Regular) Tank Wagon	Retail	Thriftane (3rd Grade) Tank Wagon	Retail	Gasoline Taxes
Dallas, Tex.	13.0	17.5	12.5	15.5	5.5
Ft. Worth	13.0	17.5	12.5	15.5	5.5
Houston	13.0	17.5	12.5	15.5	5.5
San Antonio	13.0	17.5	12.5	15.5	5.5

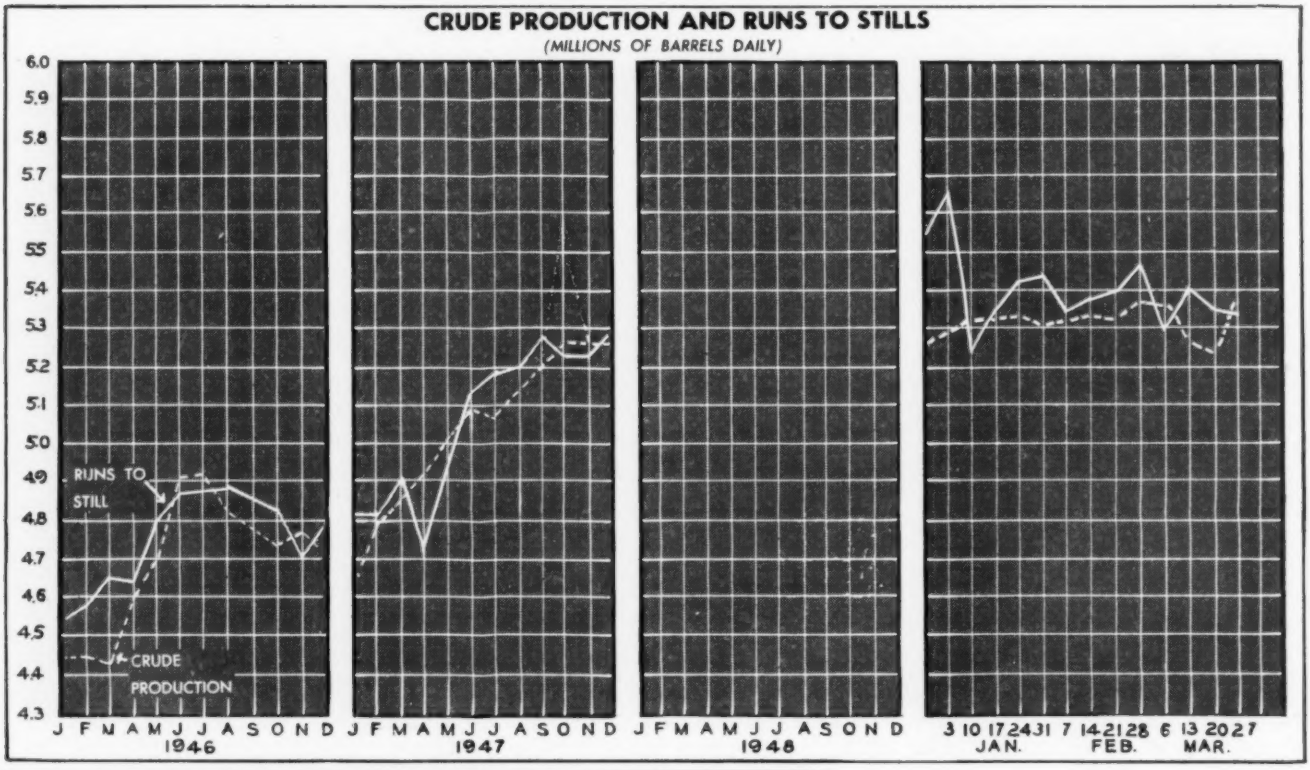
	Kerosine Tank Wagon	Retail
Dallas, Tex.	11.85	15.75
Ft. Worth	11.85	15.75
Houston	11.85	15.75
San Antonio	11.85	15.75

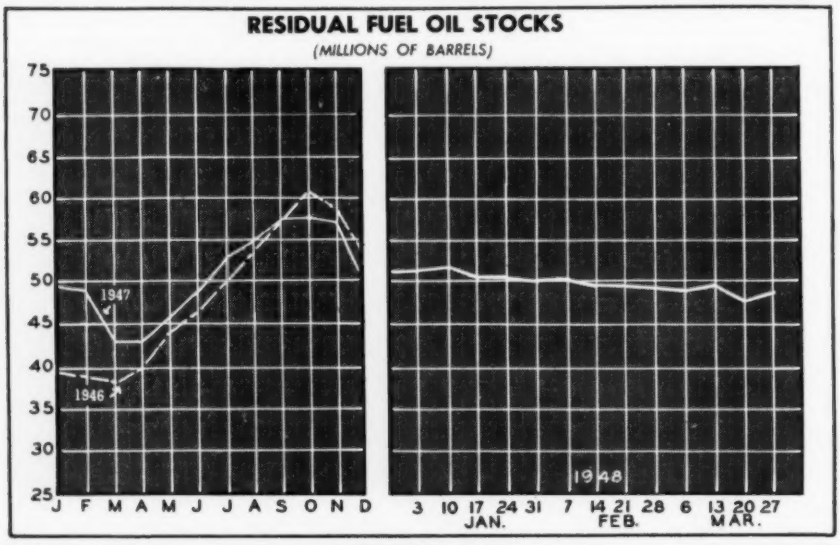
Notes:
T.W. prices are to all classes of dealers and consumers.

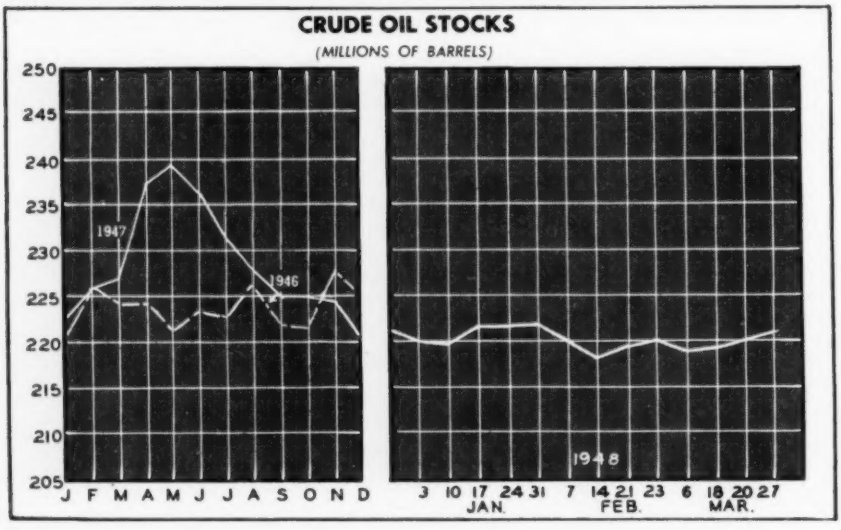
IMPERIAL OIL

	Esso Gasoline (Regular Grade) Gasoline T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont.	21.0	11.0	23.0
Toronto	21.0	11.0	23.0
Brandon, Man.	26.0	9.0	28.0
Winnipeg	24.5	9.0	26.5
Regina, Sask.	26.0	10.0	28.0
Saskatoon	28.8	10.0	30.8
Edmonton, Alta.	23.6	9.0	25.6
Calgary	22.2	9.0	24.2
Vancouver, B. C.	18.0	10.0	24.0
Montreal, Que.	21.0	11.0	23.0
St. John, N.B.	18.0	13.0	22.0
Halifax, N. S.	18.0	13.0	22.0

Taxes:
Gasoline taxes are provincial taxes.
Notes:
Prices are per imperial gal. which is 1.2 U.S. gals. T.W. prices are to divided & undivided dealers.







Daily Average, Penna. Crude Runs to Stills

(Compiled by National Petroleum Assn., from reports of all companies refining Pennsylvania crude. Figures in bbls.)

Week Ended March 20, 1948	Week Ended March 13, 1948	Week Ended March 22, 1947
62,942	60,392	63,010

Crude Oil Stocks

(Bureau of Mines figures in thousands of barrels)

	Mar. 20	Mar. 27	Change from Mar. 20
Pennsylvania Grade..	2,285	2,391	+106
Other Appalachian...	1,059	1,059	.....
Lima-Michigan	831	844	+ 13
Illinois-Indiana	9,077	9,518	+441
Arkansas	3,169	3,201	+ 32
Kansas	7,567	8,042	+475
Louisiana:	12,786	12,407	—379
North	3,437	3,378	— 59
Gulf	9,349	9,029	—320
Mississippi	3,059	2,962	— 97
New Mexico	6,600	6,440	—160
Oklahoma	24,114	24,089	— 25
Texas:	113,054	114,663	+1,609
East Texas	16,416	16,822	+406
West Texas	43,022	43,327	+305
Gulf Texas	28,751	28,987	+236
Other Texas	24,865	25,527	+662
Panhandle	3,254	3,179	— 75
North	7,164	7,010	—154
South	5,377	5,822	+445
Other	9,070	9,516	+446
Rocky Mountain	8,865	8,618	—247
California	24,233	24,100	—133
Foreign	4,272	4,480	+208
Total gasoline bearing in U. S.	220,971	222,814	+1,843
Heavy in California	6,364	6,595	+231
Total located in Bureau of Mines' East Coast District	14,632	14,960	+328

REFINERY OPERATIONS

(American Petroleum Institute figures in thousands of barrels of 42 gallon each. Figures include reported totals plus estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Crude Runs to Stills: Daily Average Week Ended		Crude Runs to Stills: % Operated Week Ended		Gasoline Production at Refineries Inc. Natural Blended Week Ended		Kerosine Production Week Ended		Gas Oil & Dist. Fuel Oil Production Week Ended	
	Mar. 27	Mar. 20	Mar. 27	Mar. 20	Mar. 27	Mar. 20	Mar. 27	Mar. 20	Mar. 27	Mar. 20
East Coast	811	831	97.7	100.1	1,872	2,045	425	359	1,317	1,351
Appalachian (Dist. 1)	87	101	70.7	82.1	298	306	56	61	79	98
Appalachian (Dist. 2)	72	75	105.9	110.3	263	223	28	31	69	73
Ind., Ill., Ky.	818	871	83.5	88.9	2,732	2,806	452	485	954	946
Okla., Kans., Mo.	435	409	91.8	86.3	1,473	1,400	215	196	515	499
Inland Texas	260	258	87.5	86.9	1,102	1,049	124	118	192	203
Texas Gulf Coast	1,292	1,281	95.8	95.0	3,802	3,623	804	624	2,369	2,263
Louisiana Gulf Coast	445	439	121.9	120.3	1,150	1,217	382	398	834	719
No. La. & Arkansas	84	76	69.4	62.8	200	183	62	59	102	90
Rocky Mt. (Dist. 3)	11	9	73.3	60.0	36	22	4	4	10	7
Rocky Mt. (Dist. 4)	144	155	82.3	88.6	373	433	42	37	168	182
California	865	839	83.1	80.6	2,482	2,293	53	159	1,073	1,041
Total U. S.—B. of M. Basis	5,324	5,344	91.2	91.5	15,783	15,600	2,647	2,531	7,682	7,472
U. S.—B. of M. Basis, March 28, 1947	4,790				14,255		2,033		5,885	

Districts	Residual Fuel Oil Production Week Ended		Total Stocks Kerosine Week Ended		Total Stocks Gas Oil and Distillates Week Ended		Total Stocks Residual Fuel Oil Week Ended		Stocks of Finished and Unfinished Gasoline Week Ended		Per Cent Daily Refining Capacity Reported Week Ended
	Mar. 27	Mar. 20	Mar. 27	Mar. 20	Mar. 27	Mar. 20	Mar. 27	Mar. 20	Mar. 27	Mar. 20	Mar. 27
East Coast	1,536	1,695	3,756	3,519	7,644	6,992	7,452	6,997	23,017	22,809	99.5
Appalachian (Dist. 1)	81	83	174	155	319	292	303	312	2,248	2,211	90.6
Appalachian (Dist. 2)	120	121	113	105	168	175	104	105	1,017	1,049	100.0
Ind., Ill., Ky.	1,024	1,133	1,842	1,723	3,529	3,551	3,056	3,197	21,698	21,640	91.5
Okla., Kans., Mo.	526	494	522	444	1,547	1,651	1,404	1,374	10,958	11,043	82.6
Inland Texas	439	416	312	254	310	288	826	791	4,306	4,327	71.7
Texas Gulf Coast	1,687	1,720	1,185	1,144	3,926	4,236	5,058	5,215	19,742	20,343	92.4
Louisiana Gulf Coast	612	578	1,037	1,051	1,993	2,089	1,736	1,840	5,973	6,079	97.7
N. La. & Arkansas	134	126	237	337	397	317	139	195	2,296	2,252	69.1
Rocky Mt. (Dist. 3)	25	22	25	25	16	17	30	28	89	96	21.9
Rocky Mt. (Dist. 4)	284	290	112	98	667	672	678	660	3,336	3,299	79.0
California	2,386	2,328	1,144	1,093	10,201	10,443	27,548	26,889	18,311	18,099	87.5
Total U. S.—B. of M. Basis	8,854	9,006	10,459	9,948	30,717	30,723	48,334	47,603	*112,991	113,247	90.0
U. S.—B. of M. Basis, March 28, 1947	8,600		9,917		31,610		43,235		†105,731		

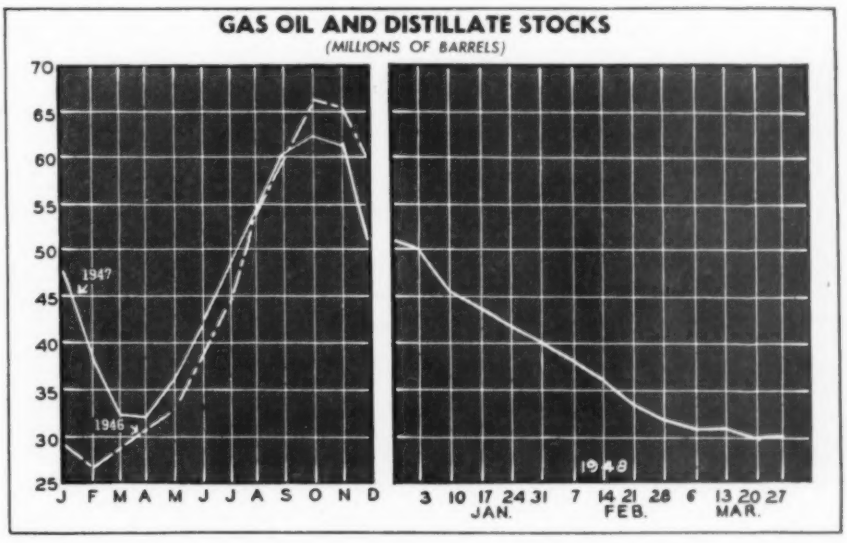
Unfinished gasoline stocks included are (*) 8,560,000 bbls.; (†) 8,626,000 bbls.

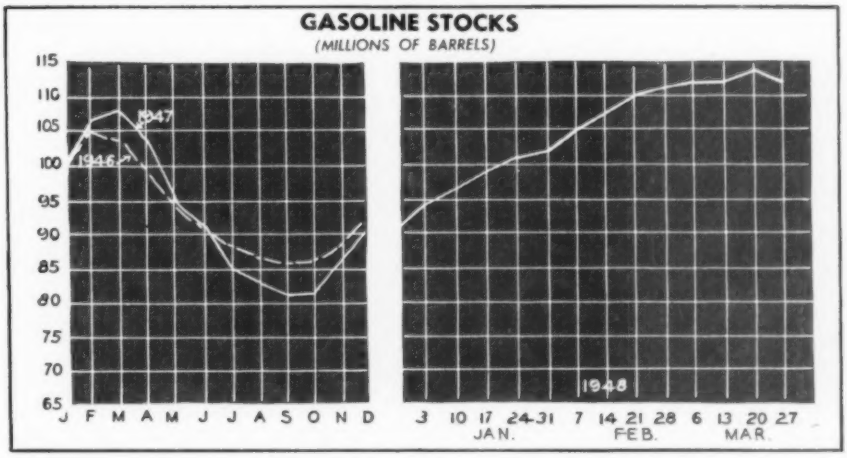
U. S. Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED Mar. 27 Barrels (Daily Average)	Mar. 20 Barrels (Daily Average)
*New York-Penna.	48,000	47,400
Florida	800	850
*West Virginia	7,850	7,200
*Virginia	100	100
*Ohio—Southeast	8,600	8,300
Ohio—Other	2,450	2,200
Indiana	18,700	17,000
Illinois	170,200	169,050
Kentucky	24,700	24,350
Michigan	44,600	41,950
Nebraska	** 450	450
Kansas	** 300,000	171,350
Oklahoma	** 400,700	395,750
Texas:		
District 1	25,450	25,450
District 2	170,350	170,350
District 3	491,350	491,350
District 4	253,200	253,200
District 5	43,350	43,350
East Texas	323,000	323,000
Other District 6	121,250	121,250
District 7-B	43,100	43,100
District 7-C	43,850	43,850
District 8	666,700	666,700
District 9	135,650	135,650
District 10	83,400	83,400
Total Texas	2,400,650	2,400,650
North Louisiana	107,150	108,450
South Louisiana	353,650	353,650
Total Louisiana	460,800	462,100
Arkansas	79,350	81,300
Mississippi	122,450	121,300
Alabama	1,500	1,350
New Mexico—Southeast	128,950	128,950
New Mexico—Other	400	400
Wyoming	143,250	143,500
Montana	24,350	24,350
Colorado	43,300	46,300
California	945,100	944,100
Total U. S.	5,377,250	5,240,250
*Penna Grade crude incl.	64,550	63,000

** Okla., Kansas, Neb. figures are for week ended 7 a.m., March 25.





Pennsylvania Oil Other Than Lubes at Refineries

(Compiled by National Petroleum Assn. from reports of oil region refiners. Figures in bbls.)

	Jan., 1948	Dec., 1947
1. Naphthas and Gasoline		
(1) Straight run, unblended and/or unleaded for sale as motor fuel	1,781	1,829
(2) Naphtha and gasoline for sale for blending or further refining or held at refinery for further distillation, reforming, blending or leading	180,891	177,380
(3) Below 65 octane, not included in (1) or (2) above	2,365	1,113
(4) 65 octane and above	225,498	217,868
2. Salable naphthas other than motor fuel (does not include refinery process naphthas)	13,825	18,302
3. Kerosine	47,392	50,976
4. 36/40 gas oil (including furnace oils)	69,997	85,043
5. Fuel oil (not reported above)	15,848	20,674
6. Oils held as cracking plant charging stocks	167,327	178,119
7. Non-viscous neutrals	21,167	24,040
8. Wax distillate	111,875	100,495
9. Crude petroleum	53,249	60,288
10. Wax (lbs.)	3,277,862	3,509,741

Pennsylvania Lubricating Oils

(Compiled by National Petroleum Assn. from reports of companies refining Pennsylvania Grade crude oil. Figures in bbls.)

	Production Jan., 1948	Inventory Jan., 1948	Production Dec., 1947	Inventory Dec., 1947
1. Raw long residuum	8,586	910	10,307	1,158
2. 600 steam refined stock	255,175	190,378	263,001	184,440
3. Other steam refined stock	47,747	52,685	46,955	59,793
4. Finished dewaxed long residuum	34,162	38,368	49,564	38,265
5. Bright stock	172,875	250,174	189,286	239,059
6. Viscous neutral (below 180 vis.)	102,781	128,199	102,300	108,791
7. Viscous neutral (180 vis. at 100)	95,572	87,508	104,443	105,125

Production of Natural Gasoline

(Bureau of Mines figures in gals., 000 omitted)

	Dec. 1947	Nov. 1947
East Coast	.....	.....
W. New York	2	1
W. Pennsylvania	1,340	1,322
West Virginia	16,092	14,538
Ohio	813	654
Illinois	13,259	13,292
Kentucky	6,248	6,148
Michigan	216	253
Kansas	9,227	8,662
Oklahoma	40,888	39,128
Texas	237,994	231,382
Gulf	60,436	57,706
East Texas	28,466	29,869
Panhandle	58,163	55,880
Other	90,929	87,927
Arkansas	8,500	8,067
Louisiana	58,760	†62,609
Gulf	27,852	30,096
Inland	30,908	†32,513
Mississippi	9,594	.....
New Mexico	9,099	8,877
Colorado	*	*
Montana	810	659
Utah	*	*
Wyoming	*5,780	*5,007
California	98,269	94,680
Total	516,891	495,279

* Colorado and Utah gasoline included with Wyoming.
† Includes Mississippi.

Dealer & Service Station Prices for Regular-Grade Gasoline in 50 Representative Cities† March 1, 1948

City	Dealers' Net Price (Ex. Tax)	Indicated Dealer Margin	Gasoline Tax (Inc. 1.5c Federal Tax)	Service Station (Inc. Tax)
Average United States	14.52	4.98	6.28	25.78
Portland, Me.	13.20	4.80	7.50	25.50
Manchester, N. H.	14.00	4.70	5.50	24.20
Burlington, Vt.	14.10	4.50	6.00	24.50
Boston, Mass.	13.10	5.00	4.50	22.60
Providence, R. I.	13.10	4.60	5.50	23.20
Hartford, Conn.	13.70	4.60	5.50	23.80
Buffalo, N. Y.	13.80	5.50	5.50	24.80
New York, N. Y.	13.30	6.20	5.50	25.00
Newark, N. J.	12.30	5.00	4.50	21.80
Philadelphia, Pa.	12.90	4.50	5.50	22.90
Dover, Del.	13.50	5.00	5.50	24.00
Baltimore, Md.	12.20	4.80	6.50	23.50
Washington, D. C.	12.60	5.40	5.50	23.50
Charleston, W. Va.	13.90	6.00	6.50	26.40
Norfolk, Va.	12.10	6.10	7.50	25.70
Charlotte, N. C.	13.70	5.40	7.50	26.60
Charleston, S. C.	12.60	6.20	7.50	26.30
Atlanta, Ga.	14.60	5.90	7.50	28.00
Jacksonville, Fla.	13.90	4.60	8.50	27.00
Birmingham, Ala.	14.40	5.60	8.50	*28.50
Vicksburg, Miss.	13.90	6.10	7.50	27.50
Memphis, Tenn.	13.20	5.30	8.50	27.00
Lexington, Ky.	15.70	4.00	6.50	26.20
Youngstown, Ohio	15.00	4.00	5.50	24.50
South Bend, Ind.	16.70	5.30	5.50	27.50
Chicago, Ill.	15.60	4.88	4.50	24.98
Detroit, Mich.	15.30	5.03	4.50	24.83
Milwaukee, Wis.	16.40	5.50	5.50	27.40
Twin Cities, Minn.	16.20	5.60	5.50	27.30
Fargo, N. Dak.	17.20	4.70	5.50	27.40
Huron, S. Dak.	16.60	4.20	5.50	26.30
Omaha, Neb.	15.60	3.50	6.50	25.60
Des Moines, Ia.	15.60	4.40	5.50	25.50
St. Louis, Mo.	15.60	5.20	4.50	*25.30
Wichita, Kan.	14.10	4.40	5.50	24.00
Tulsa, Okla.	13.70	5.30	7.00	26.00
Little Rock, Ark.	13.60	5.40	8.00	27.00
New Orleans, La.	12.40	5.90	8.50	26.80
Houston, Tex.	13.00	5.00	5.50	23.50
Albuquerque, N. Mex.	15.50	5.50	7.00	**28.00
Denver, Colo.	14.80	4.70	7.50	27.00
Casper, Wyo.	15.70	6.80	5.50	28.00
Butte, Mont.	15.50	4.00	6.50	26.00
Boise, Ida.	17.80	4.70	7.50	30.00
Salt Lake City, Utah	16.40	5.10	5.50	27.00
Reno, Nev.	16.10	4.00	7.00	***27.10
Phoenix, Ariz.	16.50	4.00	6.50	27.00
San Francisco, Cal.	13.90	4.00	6.00	23.90
Portland, Ore.	14.50	4.00	6.50	25.00
Spokane, Wash.	17.10	4.00	6.50	27.60

* Includes city tax of 1c per gal.
** Includes city tax of 0.5c per gal.
*** Includes county tax of 1.5c per gal.
† API figures as reported by The Texas Co.

Net Stocks of Pennsylvania Crude Oil

(Compiled by National Petroleum Assn. Figures in bbls.)

	Jan. 31, 1948	Dec. 31, 1947	Jan. 31, 1947
At Refineries	252,541	282,490	432,292
Pipeline and Tank Farms	1,457,823	1,557,102	1,478,035
Total	1,710,364	1,839,592	1,910,327

Midcontinent Lubricating Oils, January 1948

(Western Petroleum Refiners Assn. figures in bbls. of 42 gals.)

	Bright Stocks	Viscous Neutrals	Paraffin Oils	Steam Refined Stock	Blended Oils
Production	295,411	538,117	100,604	23,382	492,227
Shipments:					
Domestic	250,827	475,036	100,333	28,008	486,616
Export	13,097	5,781	207	739	31,563
TOTAL	263,924	480,817	101,540	28,747	518,179
Inventory					
Jan 31	278,426	579,077	74,001	87,352	328,361
Days Supply	32	36			

GASOLINE CONSUMPTION BY STATES, DECEMBER 1947**

API figures

	Tax Rate† December Cents	Month of Nov., 1947 Gallons	Month of Dec., 1947 Gallons	Month of Dec., 1946 Gallons		12 Months Ending With Dec., 1947 Gallons	12 Months Ending With Dec., 1946 Gallons	
Alabama	6	36,031,000	39,177,000	34,960,000	+12.06	437,157,000	393,705,000	+11.04
Arizona	5	16,162,000	18,058,000	15,964,000	+13.12	190,338,000	171,519,000	+10.97
Arkansas	6½	23,747,000	27,734,000	24,709,000	+12.24	301,459,000	274,793,000	+ 9.70
California	4½	270,549,000	322,683,000	295,476,000	+ 9.21	3,409,025,000	3,169,368,000	+ 7.56
Colorado	6	26,777,000	27,757,000	25,807,000	+ 7.56	372,664,000	338,129,000	+10.21
Connecticut	4	34,371,000	35,095,000	32,098,000	+ 9.34	421,401,000	384,544,000	+ 9.58
Delaware	4	5,914,000	6,363,000	5,665,000	+12.32	76,687,000	69,959,000	+ 9.62
District of Columbia	4	13,049,000	14,079,000	12,884,000	+ 9.28	157,689,000	145,745,000	+ 8.20
Florida	7	53,062,000	62,724,000	55,409,000	+13.20	651,790,000	571,651,000	+14.02
Georgia	6	47,189,000	52,477,000	49,500,000	+ 6.01	600,596,000	545,803,000	+10.04
Idaho	6	11,428,000	12,576,000	9,619,000	+30.74	166,202,000	147,860,000	+12.40
Illinois	3	143,371,000	150,183,000	133,562,000	+12.44	1,810,502,000	1,643,919,000	+10.13
Indiana	4	76,888,000	80,998,000	72,333,000	+11.98	965,824,000	888,643,000	+ 8.69
Iowa	4	57,470,000	60,526,000	58,206,000	+ 4.1	795,789,000	749,924,000	+ 6.12
Kansas	4	46,631,000	49,561,000	45,318,000	+ 9.36	639,993,000	596,464,000	+ 7.30
Kentucky	5	38,425,000	40,015,000	35,663,000	+12.20	453,868,000	409,963,000	+10.71
Louisiana	7	35,837,000	40,569,000	32,095,000	+26.4	414,236,000	376,360,000	+10.06
Maine	6	15,884,000	15,643,000	13,338,000	+17.28	200,589,000	184,571,000	+ 8.68
Maryland	5	33,613,000	36,585,000	31,656,000	+15.57	420,720,000	380,306,000	+10.63
Massachusetts	3	68,404,000	68,463,000	61,992,000	+10.44	821,069,000	750,258,000	+ 9.44
Michigan	3	125,106,000	136,103,000	125,122,000	+ 8.78	1,621,697,000	1,455,290,000	+11.43
Minnesota	4	54,639,000	54,946,000	51,365,000	+ 6.97	763,683,000	711,864,000	+ 7.28
Mississippi	6	26,623,000	29,748,000	26,479,000	+12.35	336,882,000	305,089,000	+10.42
Missouri	2	66,566,000	78,591,000	68,070,000	+15.46	889,811,000	814,968,000	+ 9.18
Montana	5	12,658,000	12,090,000	11,102,000	+ 8.90	191,745,000	175,235,000	+ 9.42
Nebraska	5	27,016,000	28,538,000	27,834,000	+ 2.53	358,167,000	327,428,000	+ 9.39
Nevada	4	4,709,000	4,852,000	4,375,000	+10.90	63,836,000	59,810,000	+ 6.73
New Hampshire	4	8,806,000	8,985,000	8,009,000	+12.19	113,292,000	103,681,000	+ 9.27
New Jersey	3	89,217,000	86,574,000	80,131,000	+ 8.04	1,027,053,000	935,235,000	+ 9.82
New Mexico	5	14,049,000	15,595,000	13,520,000	+15.35	179,599,000	163,768,000	+ 9.67
New York	4	172,235,000	165,847,000	158,410,000	+ 4.69	2,121,364,000	1,945,783,000	+ 9.02
North Carolina	6	56,142,000	58,885,000	53,412,000	+10.25	693,229,000	636,469,000	+ 8.92
North Dakota	4	15,970,000	12,176,000	12,963,000	— 6.07	237,910,000	228,216,000	+ 4.25
Ohio	4	142,005,000	154,383,000	138,773,000	+11.25	1,774,889,000	1,627,797,000	+ 9.04
Oklahoma	5½	43,657,000	49,009,000	37,984,000	+29.03	581,296,000	524,668,000	+10.79
Oregon	5	33,090,000	35,783,000	29,788,000	+20.13	433,241,000	380,781,000	+13.78
Pennsylvania	4	148,129,000	156,555,000	138,933,000	+12.68	1,813,918,000	1,661,487,000	+ 9.17
Rhode Island	4	11,192,000	12,687,000	10,982,000	+15.53	145,765,000	133,712,000	+ 9.01
South Carolina	6	28,111,000	30,961,000	27,921,000	+10.89	349,262,000	311,883,000	+11.98
South Dakota	4	16,665,000	15,651,000	14,818,000	+ 5.62	221,723,000	212,164,000	+ 4.51
Tennessee	7	48,813,000	47,608,000	40,497,000	+17.56	528,904,000	496,755,000	+ 6.47
Texas	4	187,485,000	216,516,000	203,561,000	+ 6.36	2,326,510,000	2,264,143,000	— 2.75
Utah	4	12,381,000	12,943,000	11,618,000	+11.40	166,365,000	150,066,000	+10.86
Vermont	4½	6,774,000	6,656,000	5,725,000	+16.26	85,368,000	77,291,000	+10.45
Virginia	6	49,158,000	54,150,000	47,821,000	+13.24	612,150,000	561,416,000	+ 9.04
Washington	5	46,254,000	48,414,000	41,406,000	+16.93	579,279,000	527,593,000	+ 9.80
West Virginia	5	22,387,000	26,515,000	23,090,000	+14.83	286,398,000	260,900,000	+ 9.77
Wisconsin	4	59,651,000	62,898,000	55,450,000	+13.43	807,114,000	738,863,000	+ 9.24
Wyoming	4	7,372,000	7,879,000	6,469,000	+21.80	107,108,000	94,629,000	+13.19
Total		2,591,662,000	2,792,804,000	2,521,882,000	+10.74	32,725,159,000	30,080,468,000	+ 8.79
Daily Average		86,389,000	90,090,000	81,351,000	+10.74	89,658,000	82,412,000	+ 8.79
Change from previous year:								
Total Change		.....	+270,922,000	.....		+2,644,691,000	.....	
Percentage change in Daily Average		.....	+10.74%	.....		+8.79%	.....	

† These are state tax rates per gallon. In addition there is the federal tax of 1.5c per gal.

** In general, these figures include all gasoline sold or consumed within the confines of the state, regardless of whether it was for a taxable or non-taxable purpose.

EQUIPMENT PERSONALS

Edmund Burke, Jr., former operator of his own petroleum sales engineering business in Chicago, has joined the staff of General Motors Overseas Operations to handle sales of Diesel field engines to foreign accounts in the New York area.

* * *

Harry F. LePan has been appointed sales manager of the farm storage tank division of Bennett Industries, Inc. He formerly was vice president of Inland Steel Container Co.

* * *

Walter F. Rockwell, president of the Timken-Detroit Axle Co., has been named secretary-treasurer of the Automotive and Aviation Parts Manufacturers Assn., Inc.

* * *

Frank P. Tighe, director of public relations and advertising for Houdry Process Corp., has left that company to rejoin the Chilton Co. as editor of *Motor Age*.

* * *

Paul R. Kuhn, head of Penn Central Equipment Co., has been named distributor for the entire line of industrial hose, conveyor and transmission belting, and packing of the Hewitt Rubber Division, Hewitt-Robins Inc. Mr. Kuhn has been operating in the engineering and industrial field in this same territory for 25 years. His new distributorship includes all territory within 75-mile radius of Altoona, Pa.

* * *

Fred F. Murray, president, Oil Well Supply Co., of Dallas, has been given the top award for industry public relations achievement in Texas during 1947 from the Public Relations Institute of Texas. Mr. Murray heads the oil industry public relations committee for the Gulf-Southwest district.

* * *

W. F. Rockwell, Jr., president of Rockwell Manufacturing Co., has been elected to the board of the Pennsylvania State Chamber of Commerce.

* * *

Charles Schnabel, secretary and treasurer of American Pumps, Inc., has been appointed to reorganize company's sales and distribution. Company President **R. E. Schlegel** says American will extend its operations to a coast-to-coast representation. Previously company confined distribution to limited territory east of Mississippi. Mr. Schnabel will visit present American distributors and also will select new ones.

CLASSIFIED

Situations Open

ENGINEER WANTED to take charge of maintenance and construction for a central state refinery of 10,000 BPD capacity. Applicant must be qualified with university degree in engineering and at least five years' experience in petroleum refinery engineering. BOX 373.

ACCOUNTANT WANTED. Opportunity for young man qualified in accounting for crude procurement operations. Should be generally familiar with both crude oil production and pipeline operations. Willing to locate in Kansas City. State full qualifications and salary required in first letter. Replies held confidential. Personnel Division, P. O. Box 2359, Kansas City, Missouri.

Position Wanted

NEED A "TOP CALIBRE" MAN?

Operating Executive, age 39, aggressive, experienced. 15 years sales management and training, budget control, office management and accounting. Also construction and maintenance supervision and Real Estate. College graduate. Now with major oil company. Available soon. Write:

BOX 383
The National Petroleum News

For Sale

STORAGE TANKS

3— 5' x 8' Welded
2—12' x 20' Riveted
1—10' x 34' Riveted
1—3'6" x 5'
1— 5' x 12' Welded
with steel saddles
2—43" x 85"—Copper—Welded
4—24" x 74"—jacketed
1—94' x 30'
1—10' x 10' x ⅜" Riveted

WEINSTEIN CO.
610 W. 8th St., Jamestown, N. Y.
Telephone 6-154

STEEL STORAGE TANKS FOR SALE

15—35,000 Barrel Capacity
1—10,000 Barrel Capacity
3—250,000 Gallon Capacity
2—45,000 Gallon Capacity
2—33,000 Gallon Capacity

Have available various others

We welcome all inquiries

WANTED

Plants for dismantling at any location

EMPIRE TANK & SALVAGE CO.
1451 Broadway, New York 18, N. Y.
Tel. La. 4-5760

FOR SALE

2 Tank trailers, 2 compartment capacity 2000 gal. U. S. Army F2A unit complete with meters, hose, and pumps driven by gasoline engine. Tires like new, units are in excellent working condition. Price $750.00 each, F.O.B. Jeffersonville, Indiana.

2 Erie Electric Computing pumps, model 77A, new.

2 Wayne Electric Computing pumps, model 70, new.

Pumps are surplus, in original crates. Price $250.00 each, F.O.B. Jeffersonville, Indiana.

FRANK R. KOSSA
Lindley Building
Jeffersonville, Indiana

Wanted to Buy

WANT TO PURCHASE—A microanalytical balance manufactured by Kuhlman or Bunge. Condition not of prime consideration. BOX 382.

WILL BUY

Entire, or Majority Interest, in established retail business approximately one million gals. annually heating oils and gasoline. Prefer smaller city to metropolitan. Experienced in industry and only reasonable offers considered.

BOX 379

STEEL DRUMS

We can furnish you with reconditioned steel drums at any point. Let us have your requirements. We will also buy your empty drums.

BUCKEYE COOPERAGE COMPANY
3800 Orange Ave. Cleveland 15, Ohio
Phone EXpress 3383

For Sale

FOR SALE: Commission Oil Agency located in Central Florida, Major Company, averaging fifty thousand (50,000) gallons monthly, reasonably priced. Give financial references in first inquiry. Reply: BOX 376.

FOR SALE: Several 4000 gallon, single axle gasoline transports. Excellent condition. For prices and specifications write or wire G. E. BOBBITT, Box 1055, Raleigh, N. C., Telephone 3-1793. Immediate delivery.

GASOLINE AND OIL distributing business on Pennsylvania railroad, consisting of storage tanks, pumping equipment, warehouse and major company contract. BOX 73, Columbus, Ohio.

FOR SALE: 1941 Dodge truck complete with 700 gallon-5 compartment tank, power takeoff, pump, meter & hose. In good condition. PRINCETON OIL COMPANY, Princeton, Indiana.

FOR SALE: 1944 Ford 1½ ton truck, new motor installed with four compartment, 826-gallon reconditioned and painted tank, equipped with Tokheim gas-driven pump and meter. Price $2500.00. LEO BEARD MOTOR SALES, INC., 227 S. Main St., Mt. Pleasant, Michigan. Phone: 3-5501.

FOR SALE: 1000-gallon, five compartment tank truck mounted on 1941 Ford Mercury, 1½ ton chassis; Eaton axle, good rubber, new motor within last eight months. Unit is in excellent condition. $1500.00. COPELAND OIL CO., INC., Plattsburg, N. Y. Phone 2266.

FOR SALE: Tank truck—1940 International DS 40, 1230 gallon tank, compartments—250-249-245-236-250. Motor recently overhauled; side racks; 2 drum racks; compartments manifolded but no pumping unit; 2 speed rear. Price $2200.00. W. S. PEENEY, Gulf Oil Distributor, Stroudsburg, Penna. Phone 197.

FOR SALE: 1—Fruehauf Semi-Tank Trailer, 6 compartment 2500 gallon capacity with meter, pump etc. With Brockway Model 154W Tractor plus automatic sanders. Also 1—1200 Gallon Tank, 3 compartment, pumper, meter, etc. mounted on International K-7 Chassis and cab. Both units ready for immediate delivery. Inquire—GEORGE HALL CORPORATION, Ogdensburg, New York.

FOR SALE

Four complete service stations and well equipped bulk plant in Kansas City, Missouri.

WRITE: BOX 381

Business Opportunity

EXECUTIVE WITH 15 YEARS EXPERIENCE with major oil company would invest limited capital in going jobber setup in town of 35,000 or more. Write Box 384. The National Petroleum News.

Wanted to Buy or Trade

WILL BUY OR TRADE

Substantial Quantity

HOT ROLLED

SEAMLESS PIPE

Wanted—size 10¾" O.D. x .307 wall
in lengths to cut 93"

Have—size 7⅝" O.D. x .328 wall
in Double Random Lengths

BOX 378

For Sale

"OIL COMPANY FLEET"

One, 1939 Ford, Cab-Over Engine Tractor with 2600 gallon Fruehauf Tank Trailer.
One, 1937 Federal Straight Truck and tank 1500 gallon capacity.
One, 1935 Chevrolet maintenance pick-up with compartments.

Total price, $1750.00. Will divide.

CITRIN-KOLB OIL CO.
14445 Linwood Avenue
Phone: Townsend 8-0001
Detroit 6 Michigan

TRANSPORT BARGAINS

New, army surplus, 2000 gallon Semi Trailers, 2 compartments equipped with pump, reel, nozzles, safety valves and air brakes. 9.00 x 20 tires. $850.00 FOB Cleveland.

3—Used Model U70 1943 Autocar refuelers, 1650 gallons equipped with 3 compartments, pump, meter and 2 reels.

UDELSON TRUCK SALES INC.
3218 Woodland Ave., Cleveland 15, O.

FOR SALE

STEEL STORAGE TANKS

4— 9,800-Gallon, 8' x 26'
5—74,000-Barrel, 115' x 40'
1— 5,500-Barrel
5— 8,000-gallon coiled and non-coiled tank car tanks.
3—10,000-gallon coiled and non-coiled tank car tanks.

Available at Once

Other Tanks Too! !

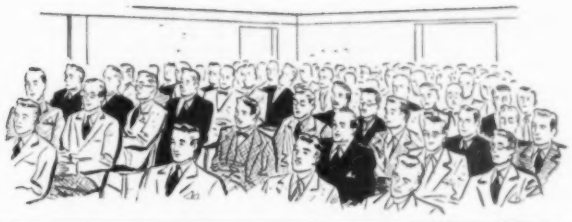
IRON & STEEL PRODUCTS, INC.

43 years' experience

General Office	New York Office
13456A S. Brainard Ave.	120 Liberty Street
Chicago 33, Illinois	New York 6, N. Y.
Phone: BAYport 3456	Phone: BE 3-8230

"ANYTHING containing IRON or STEEL"

About Oil People



Young Jobbers

William Earl Snipes, Snipes Oil Co., Landis, N. C., has spent about 14 of his 35 years in the oil business in one category or another. At present he and his father, William Edgar Snipes, operate Snipes Oil Co. under a jobber contract with Crown-Central.

Earl was born April 19, 1913, in Kannapolis and 16 years later moved with his family to Landis in Rowan County where he completed his education. A graduate of Landis High School, he played considerable football.

It was more than 14 years ago that Earl began his oil career by operating a service station handling Texaco products. In April of 1946 Earl and his father organized Snipes Oil Co. and signed the Crown-Central contract. Company now covers the southern half of Rowan County.

Earl's sister, Mrs. William Swain, assists him in conducting the business by looking after the office and keeping the books.

In addition to their oil interests, Earl and his father operate the bus station in Landis, starting the project about 10 years ago.

Earl married the former Pauline Pettel Nov. 2, 1940

Aside from time devoted to his business, Earl finds time to delve into real estate, attend meetings of his Masonic Lodge, the Lions, the Grange and Post No. 146 of American Legion, of which he is assistant adjutant and chairman of the membership committee. Incidentally, Earl served from August, 1943, to October, 1944, in the Army, being stationed for a while at Fort Jackson, S. C., and later being transferred to Fort McClellan, Ala.

* * *

Aetna Oil Co., Louisville, changes: **G. E. Graffis** has been named assistant sales manager, and **J. C. Haywood** has stepped into the position of central division manager, post formerly held by **C. L. Sauer** at the time of his resignation. . . . .**Harreld DeMunbrun** succeeds Mr. Graffis as manager of the metropolitan division.

* * *

Vernon W. Rooke has been appointed assistant to **Ernest L. Hughes,** vice president in charge of marketing. Prior to his present appointment. Mr. Rooke was assistant district sales manager for the eastern district. He joined the Sinclair organization in 1924.

Mr. Youngberg

E. G. Youngberg, general manager of Pana Refining Co., Pana, Ill., has joined the Allied Oil Co., Cleveland, to take charge of procurement of fuel oil and other petroleum products and will direct a new procurement office which Allied expects to open soon in Chicago. In the oil industry for 30 years, Mr. Youngberg has devoted most of his time to marketing oil products through Independents in the Midwest.

* * *

Annual election at the Texas-Empire Line Co., Tulsa: **John W. Emison** and **T. P. Steeper** have been elected to the board . . . **H. D. Borne** has been named secretary-treasurer to succeed the late **B. A. McKerren,** and **L. D. Shelton** succeeds Mr. Borne as assistant secretary-treasurer.

Mr. Perry

Claig H. Perry, gas engineer in charge of all exploration work in connection with locations of new plants for the Warren Petroleum Corp., has resigned to join the recently organized Texas Natural Gasoline Corp. as secretary and manager of the gas division. Mr. Perry's entire 19 years of business experience have been devoted to the gas-gasoline branches of the oil industry, and he had previously been associated with Amerada Petroleum Corp. before joining Warren.

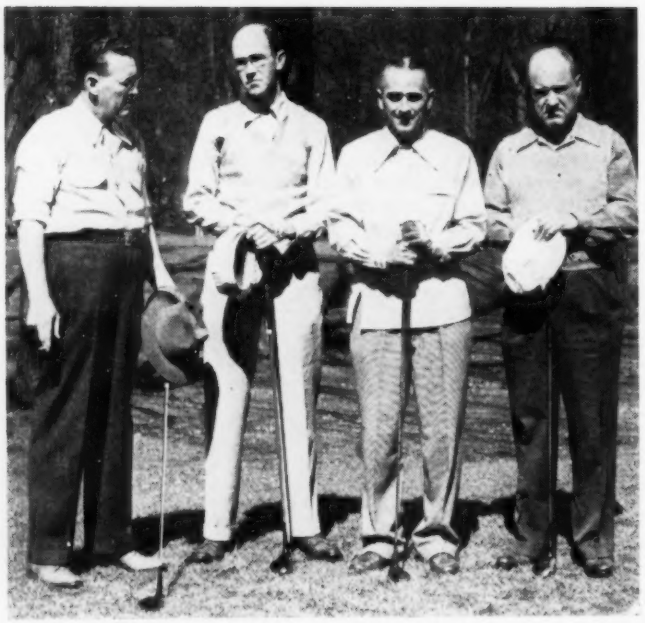
* * *

Don Gilman, executive vice president of the Western Oil & Gas Assn., has been named to the board of the newly formed Public Relations Society of America.

Members of the marketing subcommittee of the Silver Anniversary International Petroleum Exposition Hall of Science are probing into every region in the world where petroleum is produced and distributed to gain the most informative exhibits available to tell their part in the "story of petroleum." Under the guidance of the scientific and technical committee, headed by Dr. B. B. Weatherby, hundreds of the nation's leading petroleum specialists are working together to make the Hall of Science an up-to-date classroom for all phases of the industry. Members of the marketing subcommittee include, left to right, T. C. Bodley, Sunray Oil Corp., G. R. Ames, Phillips Petroleum Co., Kent K. Kimball, executive secretary of the scientific and technical committee, Dr. B. B. Weatherby, chairman of the scientific and technical committee, W. C. McCallion, Sunray Oil Corp., and T. H. Riggin, Wilcox Oil Co., chairman of the marketing subcommittee

ABOUT OIL PEOPLE

A large number of ladies attended the outing of the Indiana Independent Petroleum Assn. at French Lick, Ind., March 23-24. Pictured above are some of those who took part in the bridge tournament: at table in forground (left to right) Mrs. B. L. Meece, Chicago; Mrs. J. L. Wait, Chicago; Mrs. R. S. Williams, Indianapolis; Mrs. H. J. Kennedy, Ponca City, Okla.; second table, Mrs. E. F. Braun, Cannellton; Mrs. Ed. Fark, Indianapolis; Mrs. Paul Huntsinger, Danville; Mrs. J. McDowell, Chicago; third table, Mrs. Sam Hurd, Indianapolis; Mrs. Beard Shirley, Pendleton; Mrs. C. F. Gerber, Cannellton; Mrs. Gene Delekamp, Shelbyville; standing at back, Mrs. W. H. Jarrett, Indianapolis, and Mrs. R. E. Jones, Indianapolis, who had charge of activities



Pictured at left are three members of the golf committee at the Hoosier outing and a Louisville oil man. Left to right: Ray E. Jones, Oil Appliances Co., Indianapolis; Malcomb Campbell, Campbell Oil Co., Indianapolis, both members of golf committee; Fred Long, Lilly Brokerage, chairman of the golf committee; and Julius Malkemus, Oil Terminals Corp., Louisville

N. P. Isenberger has been appointed vice president in charge of exploration for the American Independent Oil Co. He formerly held the same post with Phillips Petroleum Co.

* * *

Ralph K. Davies, president of American Independent Oil Co., has been elected a director of American President Lines, Ltd.

* * *

Dolphe E. Simic, division geologist for the Bay Petroleum Corp. and Chalmette Petroleum Corp., Bay's north Texas division, since 1946, has been appointed chief geologist and exploration manager, succeeding **E. L. Birmingham,** who recently resigned.

Albert Stapp, state president of the Alabama Independent Service Station Assn., has qualified as a candidate for delegate-at-large to the Democratic National Convention. Mr. Stapp, besides being a service station operator, also is an oil distributor in Birmingham.

* * *

W. C. MacMillan has been elected president of three Conoco affiliates, Texon Oil & Land Co., Group No. 1 Oil Corp., and Group No. 2 Oil Corp. He is also vice president in charge of Conoco's production and drilling operations. . . . **E. J. Sheldon** was named to directorate of Texon to join **James J. Cosgrove, R. L. Bosworth, Charles A. Perlitz, Jr.,** and **P. L. Arrington.**

* * *

L. F. McCollum, president of Continental Oil Co., and **David D. Irwin,** vice president in charge of transportation and supply at Pure Oil Co., have been elected members of the board of the Great Lakes Pipe Line Co., succeeding **D. J. Moran,** Continental Oil Co., and **C. B. Watson,** Pure Oil Co. . . **Harry Moreland** has been elected president of Great Lakes and **C. A. L. Walker** vice president in charge of traffic. . . Officers re-elected were **E. H. Skinner,** vice president of operations; **R. A. Kroenert,** secretary-treasurer; and **J. T. Robb,** assistant secretary-treasurer. . . Directors re-elected included: **A. W. Ambrose,** Cities Service president; **James J. Cosgrove,** Continental Oil general counsel; **Jacob France,** Mid-Continent Petroleum board chairman; Mr. Moreland; **C. R. Musgrave,** Phillips Petroleum vice president; **H. L. Phillips,** Sinclair Refining director; **W. S. S. Rodgers,** Texas Co. board chairman; and **W. G. Skelly,** Skelly Oil president.

Mr. Irwin

* * *

D. L. Anderson, former Independent oil jobber for 20 years at Burr Oak, Kans., has joined the Vickers Petroleum Co. at Topeka, Kans., as sales representative in eastern Kansas, Missouri, and Nebraska.

* * *

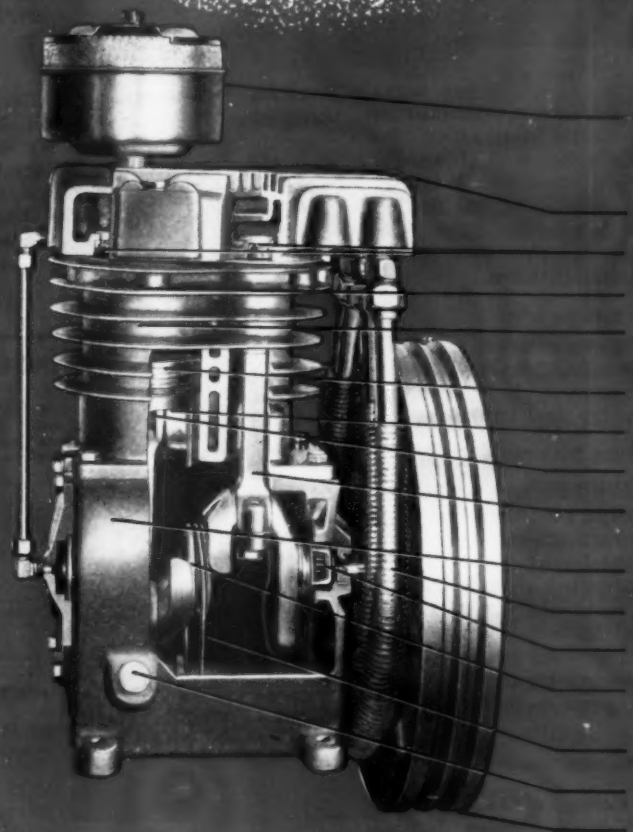
E. L. Heger, former district manager for the Pure Oil Co. at Cincinnati, is the newest addition to the membership of the Ohio Petroleum Marketers Assn. He is now operating his own business from his headquarters in Cincinnati.

Why Built better by Kellogg-American Means More Air per Dollar

NEW IMPROVED INTERCOOLERS

. . . with larger radiating fins and larger tube diameter . . . not only dissipate more heat of compression between low and high pressure cylinders, but also reduce pressure drop. Additional reasons why "Kellogg-American" means more cubic feet of air per kilowatt hour . . . why operating costs are low, and compressor life is long and trouble-free . . . why your new compressors should be Kellogg-American.

Only Kellogg American AIR COMPRESSORS GIVE YOU *ALL* THESE ENGINEERED EXTRAS . . .



- *NEW*—AIR-MAZE UNIMAZE FILTER SILENCER
- *NEW*—OVERALL DESIGN ENGINEERED FOR DYNAMIC BALANCE
- *NEW*—IMPROVED HEAD DESIGN FOR HIGHER EFFICIENCY
- LIGHT, WAFER-TYPE VALVES (only five parts)
- CLOSE-GRAIN IRON CASTINGS
- CYLINDERS PRECISION BORED and FINISHED TO MICRO-SURFACE
- PRECISION-GROUND PISTONS
- HARDENED, GROUND, LAPPED WRIST PINS
- ROLLER WRIST PIN BEARINGS
- DROP-FORGED CONNECTING RODS (Designed for force oiling)
- TOTALLY ENCLOSED CRANKCASE
- *NEW* IMPROVED INTERCOOLER
- TIMKEN TAPERED ROLLER MAIN BEARINGS (2)
- DROP-FORGED, COUNTER-BALANCED CRANKSHAFT with SUPER FINISHED BEARING SURFACES
- POSITIVE, CONTROLLED FORCE-FEED OILING
- COMBINED OIL FILLER PLUG and BAYONET TYPE OIL GAGE
- BALANCED FAN-BLADED FLYWHEEL

A PRODUCT OF

AMERICAN Brake Shoe COMPANY

Write to American Brake Shoe Co., Kellogg Division, Rochester 9, N.Y.

KELLOGG DIVISION

ABOUT OIL PEOPLE

John D. Gill, (standing) economist and director of Atlantic Refining Co., was the principal speaker at the conference of Assn. of Eastern Petroleum Credit Managers in Atlantic City, March 15. Shown here with Mr. Gill are (left to right) Lyman Bernhardt, credit coordinator of Esso Standard Oil Co., and Herbert R. Wakefield, credit manager of Sun Oil Co.

Edward H. McCollough, vice president in charge of Amerada Petroleum Corp. operations in California and Canada, has been appointed vice president in charge of Midcontinent operations succeeding the late Allmand M. Blow. Mr. McCollough has been with Amerada since 1925 following graduation from the University of Oklahoma.

* * *

C. E. Finney, Jr., vice president of Standard of California, has been named president of the Salt Lake Refining Co. and of the Salt Lake Pipe Line Co., subsidiaries of Standard. Mr. Finney will direct the construction and operation of both new projects which will each cost an estimated $5,000,000 and are scheduled to be completed by November 1, 1948. Mr. Finney first joined Standard in 1919 following Army service overseas in World War I.

Mr. Finney

° ° °

L. M. Bussert is the new manager of operations in the marketing department of Standard Oil Co. of California, succeeding **P. L. Fahrney,** recently elected vice president. Mr. Bussert joined Socal in 1917 as a salesman and had been assistant manager of marketing since 1943. . . . **W. W. Davison,** general manager of Socal's El Segundo, Calif., refinery, has been named a vice president of the company. He has been with Socal for more than 25 years.

Mr. Bussert

* * *

G. A. Olsen, vice president and general manager of Sunland Refining Corp., has been named president of that company, following the retirement of **A. W. Gearhart,** head of Sunland for the last 25 years.

* * *

Albert L. Nickerson, director in charge of domestic marketing, Socony-Vacuum Oil Co., and **Howard J. Whitehill,** president of the Whitehill Oil Corp. and member of the firm of Harmon and Whitehill, have been nominated candidates for directors of the Harvard Alumni Assn.

* * *

J. H. Sherrill, chairman of the board of Sherrill Oil Co., Pensacola, Fla., has been appointed to the State Board of Forestry and Parks.

° ° °

Four new directors and officers at Warren Oil Corp., subsidiary of Warren Petroleum are: **Leonard C. Ritts,** chairman of the board: **H. F. Beardmore, E. S. Calvert,** and **R. R. Porterfield** all vice presidents. Mr. Ritts was president and Messrs. Calvert and Porterfield were vice president and secretary, respectively, of the Devonian Oil Co. prior to its acquisition by Warren.

° ° °

Dwight T. Colley, manager of the New England division sales department of Atantic Refining Co., has been named assistant general manager and manager of marketing in the domestic sales department . . . **Frederick M. Neall,** division manager of sales in Philadelphia and southern New Jersey, has been appointed manager of advertising, sales promotion, and sales research, in the domestic sales department.

H. E. Brandli, vice president and general manager of Cities Service Oil Co., has been elected president of Oil Trades Assn. of New York, succeeding **J. H. Blakney,** Colgate-Palmolive Peet Co. Other officers include: **John W. Baker,** Philippine Refining Co., vice president; **Joseph C. Smith,** Smith-Weihman Co., secretary; **Gordon L. Benjamin,** Gulf Oil Co., treasurer; and directors **Walter P. Hamilton,** Esso Standard, and **B. H. Morris,** Freedom-Valvoline Oil Co.

Mr. Brandli

* * *

Val H. Ludwig, formerly in the marketing division of the Gulf Oil Co., has been made head of the company's newly formed employe relations department. Starting from the ground up, he is now engaged in getting this new activity organized and under way.

* * *

F. G. Cottle, manager of supply for Imperial Oil, Ltd., Canada, has been appointed technical advisor on petroleum products to the Canadian Department of Reconstruction and Supply. Mr. Cottle served as Deputy Oil Administrator in the Canadian oil controller's office during World War II.

ADVERTISERS' INDEX

This index is published as a convenience to the reader. Every care is taken to make it accurate but National Petroleum News assumes no responsibility for errors or omissions.

American Brake Shoe Co. 71
American Flange & Mfg. Co., Inc. 8
Autocar Co. 31
Berkeley Carteret Hotel 49
Champlin Refining Co. 35
Cities Service Oil Co. 52
Continental Can Co. ..... facing pg. 29
DuPont deNemours & Co., E. I. 6
Eaton Mfg. Co. ..... facing pg. 28
Ethyl Corp. 1
Fleet-Wing Corp. ..... Outside Back Cover
Ford Motor Co. 44
General American Transportation Corp. ... 2
General Detroit Corp. 40
Gulf Oil Corp. 55
Hearst Advertising Service 10
Jones & Laughlin Steel Co. 12
Kuljian Corp. 49
Leland Electric Co. 33
Lion Oil Co. 42
Monsanto Chemical Co. 38
Morrison Bros. ..... Inside Front Cover
National Foam System, Inc. . Inside Back Cover
Neptune Meter Co. 4-5
Petroleum Educational Institute 62
Shafco Distributing Corp. 48
Smith Meter Co. 59
Standard Oil Co. of California 57
Timken Detroit Axle Co. 7
Wayne Pump Co. 36-37
Ziegler & Co., G. S. 62

FIRE OUT!

FOR GOOD

IN ONE MINUTE FLAT

A GASOLINE TANK BLAZING AWAY

AER-O-FOAM

30 SECONDS . . . AFTER AER-O-FOAM APPLICATION

60 SECONDS . . . OUT TO STAY OUT

SMOTHERS FLAMES . . . PREVENTS FLASHBACKS . . . STOPS LOSS

In a matter of seconds National Aer-O-Foam forms a thick, tough, lasting airtight blanket of foam that snuffs out flames . . . insulates threatened areas and prevents flashbacks. Strange as it seems, Aer-O-Foam flows freely and quickly, yet clings fast even to vertical surfaces.

The rapid and lasting protection of National Aer-O-Foam prevents critical equipment losses—a vital necessity in the face of today's production schedules and replacement time-tables. At the same time, Aer-O-Foam itself is non-corrosive—when it dries it is easily brushed off machinery, walls and floors.

National Foam manufactures chemical as well as mechanical foam and the equipment for applying them. Expert fire equipment engineers are ready . . . willing . . . and able to help you engineer fire protection. Remember . . . to stop a fire . . . just start the foam.

NATIONAL FOAM SYSTEM, INC.

Headquarters for Foam Fire Protection

Packard Building. Philadelphia 2. Pa.

How many cars a day are "Wasted" away?

A FEW drops lost from a too hastily withdrawn hose nozzle—a spurt from an overfilled gas tank—an ounce or two spilled at a fuel oil fill pipe, or in loading a tank truck mounts up to waste of many thousands of gallons.

In the handling of millions upon millions of gallons of fuel oils and gasoline every day, these losses are occurring every minute of the day, everywhere across the continent. "Only a drop in the bucket" to each individual handler, but it multiplies to many thousands of gallons that would fill several tank cars.

This graphic illustration of a few drops and ounces growing to surprising proportions is aimed to impress folks in the petroleum business that even the littlest things can loom big in a conservation program.

Householders and motorists are being urged by our industry to economize in refined products. Let us remember that conservation—like charity—can begin right at home.

A little extra care and vigilance all along the line—at refinery, bulk plant, loading dock, gas pump, home fuel oil delivery—can result in a staggering volume being saved and added to precious petroleum stores.

THIS MESSAGE IS PUBLISHED IN THE INTEREST OF PETROLEUM CONSERVATION BY

FLEET-WING CORPORATION

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